THE GENESEE FARMER.

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ROTATION OF CROPS.

THAT there is no absolute necessity for rotation of crops in all cases, is abundantly proved. Indian corn has been grown on many of the rich bottoms of the West, year after year, for half a century. Onions are grown every year on the same land, with manifest advantage. On the Rothamstead experimental fields, wheat has been grown on the same land for fourteen successive years, and in 1855 the yield on one of the plots was fifty-five bushels per acre. Turnips have been grown annually on the same land for fourteen years. Beans, peas, tares and potatoes are also grown on the same land each year, without any ill effects being observed.

The *advantage* of rotation cannot be doubted, and many theories have been propounded to account for it. DECANDOLLE thought that plants excreted matter from their roots, which was injurious to plants of the same species and beneficial to some others of a different species. This may be true in regard to some plants, but the facts we have alluded to above prove that it is not true of all; and we may safely conclude that nearly all our commonly cultivated agricultural plants do not excrete matter at all injurious to the same plants when sown the following year on the same soil. However great the advantages therefore, there is no *necessity* for rotation of crops.

All agricultural plants require the same food, with this difference: that one needs *more* of this or that particular element than another. For instance, turnips require more phosphoric acid than wheat, wheat more ammonia than turnips, beans and clover more potash than either of the former, &c. It is easy to see that these crops can be alternated with each other to advantage; that the soil which does not contain sufficient phosphoric acid for a good crop of turnips may contain enough for a large crop or wheat, and that the soil which lacks sufficient ammonia for the production of a maximum crop of wheat may yet have enough for a maximum crop of turnips.

Barn-yard manure contains *all* the elements of plants. We may, therefore, by its use in sufficient quantity, grow the same crop, on a soil having the requisite mechanical conditions, every year. But it is evident that this would entail a loss of some of the elements of manure. For instance, if we add sufficient barn-yard manure to a soil to furnish the requisite quantity of ammonia for the growth of a large crop of wheat every year, we provide in this manner much more carbon and more phosphoric acid than the wheat requires. If, on the other hand, we add enough barn-yard manure to a soil to furnish the required amount of phosphoric acid for the growth of a large crop of turnips every year, we add more ammonia than is necessary. But if, instead of growing wheat after wheat, we grow turnips, or some other similar crop, the excess of carbon and phosphoric acid provided in the barn-yard manure for the wheat crop is taken up by the turnip plants, which, as we have said, require more of these substances than wheat. On the other hand, if we grow wheat after turnips, instead of turnips after turnips, the excess of ammonia which it was necessary to add to the soil in the barn-yard manure in order to supply sufficient phosphoric acid for the turnip crop, will be just the very thing required for the wheat.

The same remarks hold good where little or no barn-yard manure is used. The soil contains *all* the elements of plants—if it did not, *no* agricultural plant would grow—but this food is held in an insoluble condition, and we have to till the land and expose it to the influence of the atmosphere in order to render this insoluble matter available for plants. Now if, by summer fallowing, we render enough of this plant-food soluble to furnish the wheat plant sufficient ammonia for the growth of a good crop, it is quite probable that we render more phosphoric acid soluble than the wheat requires. And hence, if we were to follow up the system of summer fallowing for wheat, without taking any intermediate crop, we should lose more or less of this valuable fertilizer. But if we should grow an intermediate crop of clover or turnips, this phosphoric acid would not only be saved, but prove very beneficial to either of these crops—especially the latter.

There are scarcely any two plants that require the elements of their food in precisely the same proportion; and hence, by substituting some other of the fourteen elements of which all plants are composed for the ones we have instanced, the above remarks will hold true for nearly every crop we cultivate. It is easy to see, therefore, that, at present, a judicious system of rotation lies at the very foundation of all good practical agriculture, though, when we have learned from carefully conducted scientific field experiments what are the exact requirements of our different crops, we may be able to dispense with it by supplying the particular manure which the plant requires. This, according to LIEBIG, is the "single problem worthy of scientific agriculture at the present time;" and he justly remarks: "How simple a form would the labors of the farmer assume, could

he continually cultivate the same plant on the same field." The efforts of this great chemist to attain this end have hitherto failed, because he propounded his scheme on the assumption that the manurial requirements of plants were correctly indicated by their chemical composition. This idea has been proved erroneous, and we have to obtain this knowledge by inductive experiment.

Our knowledge of this matter has been greatly enlarged by the experiments of LAWES, BOUSSINGAULT, and other agricultural chemists who have united "practice with science," but we are still very much in the dark; and these able writers themselves tell us that, at present, practical experience is our safest guide. In fact, their experiments, up to this time, have done little more than to explain the *rationale* of systems of rotation which experienced farmers had already adopted.

Where artificial manures are not used, we may safely assume that it is poor economy to sow one grain crop after another. Science and practice alike teach that all the cereals should be alternated with root crops, or with clover or other leguminous plants. Of course, the precise method of the rotation will vary with the nature of the soil and climate, and with the price of the various farm products.

We are aware that good wheat is frequently obtained after Indian corn and after barley, and that this fact militates against the law we have laid down. We are also aware that there are several practical difficulties to be encountered if we adopt the rule of never sowing two grain crops in succession. Still, it is a violation of sound theory, and farmers should endeavor to meet and overcome these difficulties, as far as possible. An esteemed Canadian correspondent gives us the following rotation, as well adapted to a light, loamy soil: 1, hoed crops, either roots or Indian corn, well manured; 2, spring grain, either barley, spring wheat or oats, and seeded down—(the latter are not as good for seeding down with as the former;) 3, meadow; 4, pasture; 5, pasture with sheep; 6, wheat after one plowing. We should prefer to seed the barley or spring wheat with clover, and let it lie only two years, following with wheat also seeded down with clover. For a heavier soil, our correspondent recommends: 1, fallow, or peas; 2, wheat; 3, hoed crops, either roots or corn; 4, spring grain, seeded down; 5, meadow; 6, pasture. We should, in most cases, prefer to seed the wheat with clover, and let it lie one or two years, instead of following it with corn.

Mr. H. H. TAYLOR, of East Rodman, Jefferson Co., N. Y., gives us the following rotation, which he says is decidedly the best system for that section of country, and which may safely be followed wherever clover and timothy thrive well. We give it in his own words: "First year turn over the sod in the fall or spring, (we prefer fall plowing,) and plant with corn, potatoes and beans, or sow with peas. Plow in the fall after the crop is taken off. The second year sow with spring wheat or barley. Plow again as soon as the crop is secured. In the spring, give it a coat of barn-yard manure, well plowed in. If the previous crop was wheat, sow barley; if barley, sow oats or spring rye, and seed down with timothy and clover. Mow or pasture from three to seven years. Sow a bushel of plaster per acre, at least every other spring. When the grass begins to run out, turn over the turf again, and go through with the same system of rotation, and, with thorough cultivation, the land will pay well, and increase in productiveness. Soils, like animals, require rest, which they obtain while in grass—especially if in pasture. A few years since we came into possession of a piece of land which was considered entirely run out by bad cultivation and successive cropping. The year previous the oat crop was not considered worth harvesting, and the cattle were turned in to secure the crop. We plowed the land two or three inches deeper than it had ever been before, sowed it with oats early in the spring, and seeded down with timothy and clover, and harvested twenty bushels of oats per acre. We then let it lie in pasture five years, the most of the time fed by sheep, when it was turned over in the fall, and the next spring planted with corn and potatoes, yielding sixty bushels per acre of the former, and two hundred of the latter. We plowed again in the fall, and the next spring sowed with wheat and seeded down again. Not having any manure to put on, the yield was twenty-five bushels per acre. The next spring we sowed one bushel of plaster per acre, and cut a ton and a half of hay. The land is now in good condition for meadow, or any kind of grain."

ITEMS SUGGESTED BY THE APRIL NUMBER.

THE month was ushered in by a snow storm, but none the less prompt was the *Genesee Farmer*. Nearly a hundred practical articles are contained in this number. Let me remark, as usual, on a few of them.

CULTIVATION OF BARLEY.—Among the first crops to be sown comes this, now popular, grain. It should be sown if possible in April, but not before the soil is fit for working. Barley has been sown in this vicinity in March the present year, but in miserable order, on fall-plowed land, without previous harrowing. The culture you recommended agrees with the practice of our best farmers, and has been generally successful. Last season we seeded our barley sowing to clover, but with very poor success. I think grass seed does much better with wheat and rye than with any spring grain. In any case, a dressing of plaster should be given to insure a better growth.

CULTIVATION OF OATS.—On sod ground we seldom have very good crops of oats. Last year, we thought by plowing early, and harrowing and gang-plowing before sowing, to get a good crop, but it was a very poor one. On mucky soils we have had very good success, when the season suited, but the oats are generally of light weight. I have tried the White Poland oats for several years, but got only small crops—generally of first rate grain, however.

TEN RULES FOR MAKING BUTTER.—These rules agree with *our* practice very well, except in regard to skimming milk and working butter. We had rather the milk would be *loppered*—take off a little of the sour milk, it will do no harm. *Wash* the churn as much as you please, but keep the water out of the butter. Working it as much as is here recommended will get out all the butter-milk—at least we keep butter for months thus made.

CULTIVATION OF CARROTS.—I tried to raise twenty bushels of carrots last year, and got about four, at a cost of some seventy five cents a bushel. Shall try it again on a different plan, and think E. S. H. gives

some valuable suggestions on the subject. Will he tell us how to keep them through such winters as we have lately?

When does Wool Grow?—This question receives a very plausible answer from J. D. C., and if generally believed would tend to a better care of these animals. Don't let sheep get poor in the fall or early winter, if you would have them keep easily, and prove profitable either in wool or lambs.

Large vs. Small Beans.—The question of beans with me is, "*Will they ripen early and evenly?*" and then *size* is to be considered. But is it profitable to grow beans and corn together? Both crops cannot be good ones—as good as they would be grown separately.

Buying Western Lands.—Talk as you will, friend Sanfield, capital will look out for the most profitable investments. If money can be made in buying Western lands, there is no infraction of the law of honesty in thus investing it, *as a speculation*. Too great greediness, however, defeats its own ends.

Cultivation of Indian Corn.—From repeated trials, I am satisfied that good corn can be raised in the way described by S. S. B. I would plant earlier, if the season allowed, and top dress with ashes after the first hoeing, *without fail*. It "gives corn a good start," which is very important.

Ewes and Lambs.—One snowy morning in February, I found an ewe with twin lambs in my flock at the barn. It was altogether unexpected, but the little fellows seemed smart, and determined to make the best of it. So I partitioned off a roomy shed for them and their mother, and have fed the sheep once a day with one pint of oat meal, (containing one-third corn,) scalded and salted, watering once a day besides, and supplying all the hay she would eat. The ewe and lambs are doing well—the latter growing finely, and they will be worth almost a year's growth more than May lambs, next season. I never knew that sheep required half the attentions which J. K. recommends, and still have some doubts about it.

Dwarf Apple Trees.—I had one of these, but it did not bear under six years from the bud, and then died a year afterward, though cared for to the best of my knowledge and ability. But it was a very beautiful object when full of ripe apples. The crop was not a very large one, nor would it prove profitable to depend on such trees for fruit, in my opinion.

Niagara Co., N. Y. B.

NOTES FOR THE MONTH, BY S. W.

Birds—their Usefulness, &c.—Bement's article on this subject, in the last *Farmer*, should be read, learned, marked, &c., by every one who tries to grow a tree or vegetable. But he has neglected to notice how much of the blame for the paucity of birds about the house, fruit-yard, garden and orchard, is to be attributed to the murders of the domestic cat. Where a vigilant grimalkin and her kittens are domesticated, no robin and sparrow has any resting place, either on bush or tree; and their fledglings are almost invariably devoured by these feline mousers, either before or after they begin to have the use of their wings. If we could contrive to prevent the marauding horde of rats from invading the premises, so that the watchful cat might be dispensed with, robins, sparrows, blue birds, &c., would increase and multiply, and, in addition, every house would have its swallows and martins. If it is provoking to have a May Duke cherry tree stripped of its fruit in one day by birds, it is still more so, after driving off the birds and picking the fruit, to find your tree dying the next year, its inner bark completely eaten out by concealed worms. But *a propos* of insectivora, I have lost within the last two years three out of four young bearing apple trees, killed by invisible borers, although the trees were washed with strong suds, and and the caterpillars burned out. Not a peach tree can I grow of late that is not stung on all sides as soon as it has attained the size of a whip-stock. Trees that got their growth before insects were so destructive still continue to live, both trunk and limbs full of sores, bearing only a little sickly, wormy fruit. Yet I remember the time when it was no more trouble to grow peach trees than pig weeds; in Ovid and Romulus, thousands of bushels of peaches were fed to the hogs—now, owing to the insect enemies of the tree, very few peaches are grown.

The Profits of High Farming.—Our amateur farmer, Joseph Wright, who has so long astonished the cigar makers by his extra large, superior crops of well cured tobacco, sold the last week to Sheldon, a New York drover, eleven yearlings, coming two years old, for $60 each. Such veal as some of us were favored with to-day from one of his yearling calves might founder an alderman. It had all the appearance of young beef, only fatter; it was completely mottled with that carbonaceous tissue which represented the sugar of the perfect corn fodder on which the animal had been fed and wintered—Ohio Dent corn, sown in drills, and cut and cured as soon as its full saccharine state was attained.

Apple Trees.—The best apple trees, and the best fruit in this county, grow on the friable clay loams near the deep ravines which debouch in the lakes. On digging into the side of one of those ravines, apple tree roots were found more than twenty feet below the tree's base. This fact shows that apple trees require a very deeply drained soil, and that they should never be planted where spring water rises nearer than twenty feet to the surface. The famed Wayne county apples grow on gravelly ridges of the Onondaga group, the richest of all loose soils in organic remains.

Saxony Sheep.—It is said by a man of experience in the premises, that no sheep would be more profitable to the farmer, if he would only take good care of them, and separate them from other sheep to keep the blood pure, than the Saxony; but when crossed with the Merino, the progeny is less hardy, and materially deteriorated both in constitution and wool; hence the notion that the Saxon is not a hardy sheep. Ten years ago, Perkins & Brown, of Akron, Ohio, had a large flock of pure Saxony sheep, which, by good treatment, became both hardy and large sized; many of their fleeces weighed six pounds, and such wool has now, in our day of amalgamation, become rare indeed.

Letters from the South and West.—It was pleasant to read in the last *Farmer* Dr. Lee's very interesting letter from Georgia, the more especially as he now dilates with satisfaction on the rise and progress of the *Genesee Farmer*, a paper which he so long and ably conducted. Letters from farmers lately removed to the far West, would be of double importance if almost every man or woman there did

not write as if they wished to encourage emigration. They describe the matchless soil, the tall corn, the redundant prairie grass, the prairie hens, the pigs and poultry; but they neglect to complain of wet prairies, the mosquitoes, fever and ague, and the paucity of timber. They tell us how fat the prairie fed cattle are in autumn, while they neglect to say how much of their corn rotted for the lack of shelter, how many of their sheep were killed by prairie wolves, or how many of their bovines had to be lifted up by the tail in the spring, after the winter's exposure to the bleak winds and low temperature of the prairies. The whole truth, if told, would give an interesting panorama of life in prairiedom, which would enliven the scene, and add that romance to isolated monotony by which alone the young and energetic make a play-spell of the battle of life. Evidently under this spell a man writes from Iowa, saying that "those who have failed to succeed at the East may honorably succeed there, and experience that joy which the world cannot give."

Early Planting.—It is time now, (April 10th.) if not done before, to sow onions and plant peas and potatoes. Beans, although wanted early, should not be planted, owing to their tender nature, until the 20th of May, as we generally have the last white frost as late as the last days of May. But some Limas, and a few rows of Early Dwarfs, may be planted by the 10th, if care is taken to cover them on the night of a frost; an inch board is effectual, while they freeze under cloth. Limas may be covered with the hoe when two inches high; a sprinkling of soil on the leaves will protect them. Early planted beans, like early planted corn, attain strong roots and go ahead of the late planted, particularly in warm dry weather.

Waterloo, N. Y.

CHINESE SUGAR CANE—JAPAN PEAS.

Messrs. Editors:—Having of late seen some doubts expressed in regard to the successful culture of, and manufacture of sugar and molasses or syrup from, the Chinese sugar cane, as well as to the profitableness of its culture for its saccharine products, I have concluded to give you an account of an experiment I made with it last year.

Between the 20th and last of May, 1856, I received a small package of seed of the South African, or Caffrarian, variety, which I planted the day I received it, on *one rod* of land, as near as it could be measured, three feet apart one way by about two to two and a half the other, ten seeds in a hill. All that vegetated (say five out of seven) I let stand, and cultivated carefully, same as corn or broom corn. Owing to the extreme dryness of the season, and the coolness of the weather in August, together with the closeness of the plants, only about one-half of the seed matured. I saved, however, about seven pounds of tolerably well matured seed, besides losing eight of the best seed-heads, which were taken from the lot before cutting.

On the evening of the 14th of October, anticipating a heavy frost, I cut the canes and placed them in a heap in a secure place, under shelter. About a week after I manufactured the whole into syrup, or molasses, by passing a few of the canes by hand through a tinner's cylinder, by which means I expressed about two quarts of juice, making about one quart of thick syrup, or molasses, in about thirty minutes' boiling. The balance of the canes were cut into pieces from one to three inches long, and boiled in pots of water, (only being put through that process twice, and not pressing the stalks in any manner whatever,) which, after removing the stalks, was boiled down to syrep, making in all about *three gallons* of an excellent article, equal, if not superior, in color and flavor, to the best quality of Boston syrup. My yield was equal to *four hundred and eighty gallons* per acre, and I am satisfied that if I could have thoroughly extracted the juice, it would have exceeded five hundred gallons per acre.

I expect to plant six or seven acres this season, and more fully test its profitableness, both for saccharine purposes and as a forage plant; and would be glad to procure information respecting the purchase or manufacture of a cheap and effective machine for extracting the juice. Perhaps you, or some of your correspondents, could give me the information.

Japan Peas.—I planted about fifty Japan peas last year, in the latter part of May, which grew luxuriantly and bore profusely, considering the intense drouth of the season. I gathered about a peck of mature peas in the fall, after having a part destroyed by my own and my neighbors' fowls. We used some of these peas last winter, and found them good for culinary purposes. Our fowls also seem to esteem them highly, as they eat them with avidity. There can be but little doubt of their maturing in this climate, if planted in May. E. Hall.

Berlin, Ohio.

POTATO RAISING IN IOWA.

Messrs. Editors:—The potato loves a loose soil, with decaying leaves, grass roots, or other vegetable matter. If the ground be foul with grass and other weed seeds, plow early, and in a week furrow out. As often as weeds start in the furrow, run the furrow afresh, till time to plant; and just before the potatoes are up, straddle the rows with a cultivator, set narrow, and the front tooth out. Work them often and deep till the blossoms begin to show, *and not afterwards.* If the weather is very dry plow often, or else your potatoes will grow shallow and precocious, being affected by the vicissitudes of the weather, and will be ill-shaped—knotty and forked, with watery ends. Plow the last time with a ten or twelve inch shovel plow, as deep and as close to the row as possible. Move the hills a little, but not tear them loose. Split the rows with a shovel plow, big enough to loosen all the middle. You will have a surer and better crop to leave the ground as level as possible; but if your variety grows scattering in the ground, you will dig with less work if the row be ridged.

Manner of Planting.—If the ground is loose, not inclined to cake and bake, drill—one foot is a good distance. If the ground is heavy, cross three feet one way and two feet the other. Plow mostly the wide way, but once at least across, to break the ridge under the row.

Plant early as possible, if you fear the rot; but the first of June planting brings a better crop than a month earlier. Early varieties do well here planted as late as the twentieth of June. Potatoes will keep better, and be of better quality for spring and sum-

mer use, to be planted so late that the tops will be a little green when frost comes. As a precaution against rot, I should, *in theory*, thoroughly ripen the seed. I have not experimented in that particular.

VARIETIES.—The Neshannock is early and productive, and, when raised on new ground, is of good quality, but is, both in growth and keeping, and in every way, a tender potato. The white fleshed Pink Eye is a late and excellent-keeping potato, but grows scattering in the ground, making laborious digging, and is usually small; but in grounds highly manured two or three years previously, and planted with pieces of from one to three eyes in a hill, if well cultivated, produces a good crop of good sized potatoes, of the very best quality. It will bear as rich a soil as Indian corn. It is in every particular a hardy potato, and will bear more plowing, more manure, more drouth, more wet, more heat, and more cold, than any other kind, and is always of good quality. These two are the leading varieties here. Neshannocks are most popular in the market.

I have done best with seed ends of large potatoes cut into pieces of two or three eyes, and dried a little before planting. Dig with a bright steel hoe.

Muscatine, Iowa. DAVID PURINTON.

MANAGEMENT OF A PRAIRIE FARM.

THE first operation in making a prairie farm is to turn the sod over, which should be done from the first of May to the first of August, or while the grass is growing and full of juice—the green grass causing the sod to rot and be in good condition for crops the next spring. If it is broken earlier, it does not rot as well, and the grass and weeds grow up and make the land foul; if broken later, it does not rot so as to produce a good crop the next season. The sod is sometimes turned over in the spring and immediately planted to corn, which sometimes produces fifteen or twenty bushels per acre, but frequently fails to produce anything. There is a field of thirty acres in this vicinity that did not produce half as many bushels. From two to seven yoke of oxen are generally used in breaking, but sometimes two, three or four horses are used.

The plows used in breaking turn from ten to thirty inches wide, and are made of steel; the share and cutter are kept sharp, by filing and hammering. In breaking, thin furrows turned up rough are generally preferred, as they harrow up mellower than thick, flat furrows. The proper way is to turn the furrows medium depth, and not very smooth. Particular care should be taken to cut and turn over all the sod.

After the ground is broken, it is better to let cattle run on it at pleasure, as they feed down all grass and weeds, and tread the surface down, which has a good effect on the crop. Our soil, instead of being too hard and heavy, is too mellow and light; consequently, packing the surface makes it produce better crops.

The ground that is broken one summer should be sown as early as possible next spring. Where old ground is sown to small grain, it should be plowed the previous summer or fall; the best way is to plow it immediately after the crop is off, so that what grain is scattered will come up and make excellent pasture. The ground should be thoroughly rolled after the grain is sown. The roller should also be used on corn ground after the corn is planted, as it leaves the ground smooth and mashes all the lumps, so that the cultivator can be used in the corn when it is quite small, and before the weeds get the start of it. The best way to keep our soil rich is the proper rotation of crops—corn, wheat, clover, &c.—Every prairie farmer should plant groves of timber around his buildings, for a protection against the cold winds of winter. Cotton wood and locust are well adapted for that purpose; the former is raised from cuttings, the same as currants, and the latter from seed. Four or five years are sufficient to raise a grove that will be a great protection and ornament to a residence. L. GEE.

Near Wyoming, Jones Co., Iowa.

BORERS—VINE BUGS—SULPHUR ON CORN, &C.

MESSRS EDITORS:—My apple and peach trees, especially those growing upon a loose gravelly soil, have been much infested, just at the edge of the ground, with the borer. I have tried many experiments to destroy them; and once I succeeded admirably by the free application of spirits of turpentine to about a dozen fine peach trees; and from actual experience I can recommend it as a certain remedy to *kill grubs*, only it had this *little draw back*—it killed the trees. Last year I tried ashes around my peach trees. I removed the dirt down to the roots and heaped a quart of unleached ashes around the body of the tree and then drew the earth back again. Thus far I have seen no grubs, and the trees have received no injury from the application. I have used soft soap and Scotch snuff upon my apple trees, applied from the roots upwards about a foot. If applied two or three times during the summer, no eggs are deposited.—Before taking these precautions I lost many trees, and those that lived made but little growth.

VINE BUGS.—I preserved my vines last year from the ravages of this little pest by placing little wads of cotton saturated with spirits of turpentine among the vines near the roots, using care not to have them touch the vines. The turpentine should be renewed from time to time.

CROWS.—The time is near at hand to bring out the scare crows, (which never scare any crows.) Three years ago I planted a piece of corn in a small lot bordering on the road, and right opposite my house. I supposed it would be safe, but I soon found that the crows were earlier risers than I, for at the earliest dawn of day they would be in the field. I put up a frightful image with an old musket resting across a stump. As if to show their contempt, they pulled up the corn under its very muzzle. I then tried twine without success, for they still continued to make their morning visits. I then soaked some corn in water with arsenic, and strewed it about the field, which was soon picked up. The next day there appeared to be quite a disturbance in the camp over among the hemlocks. From the amount of "cawing" and fluttering among the tree tops, I concluded they were holding a coroner's inquest, or perhaps confabulating as to the safety of pulling up corn. I think it must have been decided to be a *safe operation*, for they were soon at it again. The result was, by planting over two or three times, I got less than half a crop. That trouble is ended now, for I have found a scare crow that is effectual. For the last two years I have applied about a pound of sulphur to the acre, mixed

with plaster and ashes; a handful thrown upon each hill, just as the corn begins to prick through the ground. Although crows were daily flying over and around my corn field, never during that time have I seen a spear of corn pulled by them, or one light in the field. Farmers try it. S. MITCHELL.

Cameron Mills, Steuben Co., N. Y.

CULTIVATION OF BEANS.

MESSRS EDITORS:—Beans are not cultivated as a field crop so generally as they deserve to be, when their value for table use as well as for other purposes is considered.

SOIL.—Any soil that is dry, and rich enough to produce corn, or wheat will answer for beans. Sward ground that is intended for wheat will not be impoverished any more by growing a crop of beans during the summer before sowing to wheat, than by fallowing in the fore part of the summer, and laying exposed to the scorching rays of the sun until fall.

PREPARATION.—In plowing sward for beans, be sure to turn the furrows down flat, so that the grass may be smothered and prevented from growing. Harrow lengthwise of the furrows, taking care to pass around the land just as the plow went. Harrow thoroughly in this direction and then across, if you can without disturbing the sod. Next use the gang plow, taking care not to let it run so deep as to disturb the furrows.

PLANTING.—Plant from the first to the middle of June. Where the quantity to be planted is large, procure a machine for that purpose, to be drawn by horses. A man and boy with a machine will plant about twelve acres per day. The usual distance apart to plant is thirty inches one way, and ten the other. The only kind recommended for general field culture is the White Medium. Keep the ground well stirred, and free from weeds.

HARVESTING.—If the season is favorable they will be ready to harvest in about ninety days. Commence harvesting when the pods are about two-thirds ripe. Pull and throw five rows in a winrow, in dry weather, and let them remain three or four days; then turn them and let them remain until the beans are perfectly dry; then throw in bunches of convenient size for pitching. They should never be housed until perfectly dry.

THRESHING.—This is done with horses. A man and a pair of horses will average about forty bushels per day, if the crop was housed dry.

Average yield per acre, about twenty bushels.—Average price $1.00 per bushel. Fodder worth $2 00 per acre. JOHN G. SAMPSON.

Lacezville, Harrison Co., Ohio.

REASONS WHY PREMIUMS SHOULD NOT BE OFFERED TO LADY EQUESTRIANISM.—1st. It does not tend to improve the intellect, or promote good morals. 2nd. It attracts the attention from the more important objects, for which agricultural societies were formed.—3rd. It is uncomely and undignified for a woman thus to expose herself. 4th. The horse jockey is undesirable and unbecoming in man, much more so in woman. Many more reasons will suggest themselves, to a delicate mind, which we would not put on paper.

Aurora, Cayuga Co., N. Y. M. S. B.

CHEESE MAKING IN A SMALL DAIRY.

STRAIN the milk in a tub or kettle at night, and if the weather is so warm that the milk will be in danger of souring before morning, add the rennet immediately, and break up the curd in the morning previous to setting the morning's milk. If the weather is not very warm, let it stand until morning and stir the morning's milk with it. Some of the milk should be put in a kettle and warmed sufficiently, that when added, it may all be about milk warm.

After the milk is set let it stand about an hour, or until the whey separates from the curd, which can be told by running a knife through it. Break the curd up fine with the fingers or curd-breaker; dip it into a strainer placed in a cheese-basket; let it stand until the whey has drained off. Take some of the whey and heat it until the hand can scarcely be held in it. While this whey is heating, cut the curd into small pieces; put the hot whey into the kettle or tub and put the curd into it—stirring it continually, that it may scald even. As soon as the curd will squeak between the teeth, it is sufficiently scalded.

Then place it again into the cheese-basket and press out the whey; put the curd into a tray or wooden bowl, and cut it fine with a knife. Salt to the taste; put it into the hoop and press it an hour; take it out, turn it and press again until night.—Then turn it again and let it remain in the press until morning.

Set the night's and morning's milk the same as before, and after the curd is scalded take the cheese from the press. Cut off the outside of the upper surface, and put it into the hot whey from which the curd was taken. Take the pieces which have been cut from the cheese, cut them up fine, put them into a bowl and pour on some hot whey, and let them stand. Put the cheese into the hoop, with the cut surface up, and put the new curd on top, with the pieces from the bowl in the middle, and press as before. If you have but few cows, and the cheese is not yet large enough, you can add again, as before, as often as you choose.

Newfane, Niagara Co., N. Y. MRS. S. M. W.

Genesee Farmer Prize Essays.

ON THE CULTIVATION OF BARLEY.

BARLEY, like most other grains, has been known and cultivated from the earliest times; and in countries and localities that are favorable to the growth of wheat, rye and oats, it is, and always has been quite extensively raised. It also succeeds in certain soils that are not favorable to the production of the above named grains.

The main qualities to be looked for in the selection of ground on which to sow barley, are (1.) A *deep, rich* soil. A black loam, if not too loose and porous generally produces a good crop of barley. (2.) It should be a light soil. Stiff and heavy soils that produce tolerable good wheat, seldom produce anything more than a second rate crop of barley. (3.) It should be moist, but not a wet soil. The preparation of the soil should be thorough. If barley be sown on ground prepared in the manner that land is

frequently prepared for wheat, (by persons calling themselves *farmers,*) it will most certainly result in a partial, if not an entire, *failure.* A clover sod, if plowed in the fall or during the winter or first spring months, so that freezing and thawing may assist in mellowing and pulverizing the earth is nearly certain to produce a good crop of barley, if the soil and location be judiciously selected and the ground prepared in the best manner in the spring, before the seed be sown, and then thoroughly harrowed in.

There are several varieties of barley—the most prominent of which are the "two-rowed," the "four-rowed," the "six-rowed," and the *beardless.* The "six-rowed" is generally supposed to be the best, from the fact that it is the hardiest, and withstands the rigors of the northern latitudes better than either of the other bearded varieties. The beardless is as yet, not much known. It was discovered in the gulches of the Himalayan mountains, and it promises to be a valuable acquisition, as it is entirely *free* from beards.

Barley should be *sown as early* as the season will admit of the necessary preparation. The amount usually sown per acre varies from two to three bushels—poor soils when sown early, requiring *less,* and rich, well prepared soils, especially if sown a little late, requiring *more* seed. Generally there is more danger from sowing *too much,* than from a lack of seed.

In harvesting barley, it is very important that it be cut at the proper time. If it be cut too green, the grain will shrink, and consequently lose in weight, and if too ripe, it will waste in the cutting and handling, as it shells out very easily.

The main use to which barley is applied in this country, is in the manufacture of malt liquors; but there are other ways in which it can be used that will ultimately give a better return to the *consumer.* In Europe it is quite extensively used in feeding horses. When boiled and mixed with cut straw, it acts as an excellent *aperient,* as well as *sudorific*—opening the system, and softening the skin. The prejudices which have long existed in this country against it as food for horses, (from the supposition that it is too heating for them) would vanish if these persons would reflect that the best horses in the world are raised where barley forms one of the principal ingredients in their food. It is also an excellent food for hogs, if ground and mixed with their swill.

The average number of bushels per acre is about twenty-five—costing the producer about fifty cents per bushel. It ranges in price at present from $1.00 to $1.37½ per bushel, leaving a net profit of from 50 to 87½ cents per bushel. It leaves the ground in good condition for wheat. There should not be two successive crops of barley raised on the same field.

Laceyville, Ohio. JOHN G. SAMPSON.

ON THE CULTIVATION OF ROOT CROPS.

BEETS.—I have had some experience in the cultivation of all the different kinds. For field culture, Mangel Wurzel, White and Yellow Sugar; for garden, Long Blood Bassano and Blood Turnip are the best varieties. For garden culture, the seed may be sown early in April for early, and in June for fall and winter use. The Bassano is the best early, and the Blood Beets follow soon after. They all require a deep, warm, rich soil, and should be sown about twenty inches apart in rows, and stand about four or six inches apart in the rows. The field beets should be sown about the first of June on a well prepared soil, on ridges about three feet apart, and thinned to eight inches in the row. The seed should be soaked in warm water three or four days before sowing; then roll in plaster, sow, and tread in the seed as you sow, and cover lightly with a rake. This method of sowing will make sure work, if the weather and ground are dry; if wet, the treading in may be omitted. The beets will make their appearance in from four to eight days. As soon as large enough, pass through the rows with a hoe, and weed and keep them clean. The proper time for thinning, is when the plants are about two inches high, when the ground is moist after a rain. The cultivator can be profitably used as soon as the plants are large enough, and the last working should be with a small shovel plow or horse hoe. I know of no better way of harvesting than pulling them by hand and topping with a knife, and this should be done before hard frosts in the fall.

PARSNEPS.—Very little attention has been given to the parsnep as a field crop, it being confined principally to the garden in a small bed, designed chiefly for the table, and in my opinion is one of the best garden vegetables raised for winter and spring use. Cannot they be profitably grown as a field crop? I think they can. Its culture requires much the same treatment as the carrot, but should be sown very early, as soon as the ground is warm and dry, and in the same manner.* The seed should be sown dry. You must wait patiently for them to come up, for, as every one who has raised them knows, it takes sometime for them to vegetate, but if once up and clean from weeds, they will grow most luxuriantly. They should be thinned to about four inches in the row. They should be kept clean through the summer, and they will grow till snow comes, and can be left in the beds all winter without injury, which is convenient if you are short of store room. When the frost begins to come out of the ground in the spring they are ready for use; or if wanted in the winter, some may be dug in the fall and covered over in the cellar with dirt. A good crop will produce five or six hundred bushels per acre; and as food for cattle and hogs, they are most excellent. They may stand where they grew till the ground is wanted for another crop, and then harvested and fed after all other roots are gone. Working cattle are very fond of them, and will eat them as greedily as they will corn meal. If small, they may be fed whole; if large, slice them with a spade. They usually grow deep in the ground, and may be readily harvested by plowing close to the side of a row and pulling them out, and then plowing again till all are finished.

RUTA BAGA.—This crop is not cultivated extensively in this country, although a profitable crop for a farmer to raise. Still, it is not without its drawbacks. The first is, they are a very small plant when they first come out of the ground, hardly discernable, and many times the small black ground flea devours them before the cultivator gets sight of them, and more than likely he will say that the seed was bad and never came up, when the fact is it came up the second time before he thought of looking for it. This flea is a great drawback to the cultivation of

* See an article on the Cultivation of Carrots, in last number, page 110.—EDS.

ruta bagas, turnips, cabbages, &c. Several remedies have been proposed, one of which I will mention: Soak the seed in tanner's oil two days, and roll it in plaster before sowing. I have tried it, and sometimes it failed and sometimes not, so that I cannot say that the remedy is certain. A great help is to watch about the time the seed is coming up, and scatter plaster on the rows. If they get two or three days ahead of the flea, there is not much danger. Second, some seasons they will not make good bulbs, and produce light crops. The reason I cannot give, but it is attributed to old seed, and sometimes to dry, hot weather.

The best soil for this crop is a deep black muck, manured lightly, and well incorporated with the soil. The ground should be ridged about two feet apart, and seed sown on the ridges and raked in. It will come up in three or four days, if the weather is good. Sow about the fifteenth of June. Keep them clean, and thin, when quite small, to about six inches in the rows. Use horse and cultivator when large enough, and for the last time use double mould-board plow or horse hoe. If the season is good, eight hundred bushels per acre may be expected, and will not cost more than four or five cents per bushel. The best way I have tried for harvesting is to pull and lay two rows in one, laying the tops all one way; then take a sharp spade, and walk along and clip them off. A man will top in this way from three to five hundred bushels per day. Drive your wagon along side and throw them in, and the work is finished. They make good feed for fat cattle during fall and spring, and mild weather in winter. Sheep will do well fed with them during winter and spring. Cows like them, but if giving milk they impart to it an unpleasant flavor, and also to the butter made from it. They are first rate winter and spring turnips for table use, and will keep good in the cellar till June.

Turnips.—The common turnip is raised more or less by almost every farmer and gardener in this country, or at least they sow some seed expecting to find turnips in the fall. Some very wisely sow extensively for feeding cattle; others scatter a little seed in the garden, corn or potato field, hoping to raise some for table use. This crop, seemingly neglected more or less, and so little trouble taken to prepare a piece of land on purpose for it, may be made a very profitable one by proper attention and selection of varieties. It will grow on almost any soil, if well pulverized; but the best is black muck, new land, sandy and chestnut loam. They may be sown from the first of July to the fifteenth of August. After wheat, oats and barley, plow the ground immediately after harvest, harrow thoroughly, and wait for the grain to come up; after it has well started, cultivate thoroughly to destroy it, and then sow your turnips broadcast; harrow them in, and roll if the weather is dry. Soon as up, sow plaster, and if the ground is clean nothing excepting thinning will be required; but if weedy, use the hoe, and weed. A good crop may be expected, and not to cost over three or four cents per bushel. The best varieties are the White Stubble, Red Top, Strap Leaf, and White Dutch. They may be fed to all kinds of stock except horses. If fed to milch cows, the tap root should be cut off and not given to the cows, and the milk will not taste. Feed fat cattle once a day, about three pecks each, and once with corn meal, and they will thrive well.

Brighton, N. Y. E. S. Hayward.

ON THE CULTIVATION OF BEANS.

The cultivation of the white bean as a field crop, does not receive the attention in this country, that its importance demands. As a rotation crop, especially with wheat, its value is not properly estimated. Beans impoverish the soil but little, yet are rich in nitrogen, and more nutritious food can be obtained from an acre of beans than of almost any other crop.

Beans flourish best in a light, warm soil. They will thrive on any soil that will grow corn. If a clover sod, it should be turned over as soon in the spring as the ground is in good condition; and, for beans as well as for any other crop, the surface should be well pulverized. The soil should be moderately rich; if too rich they grow too much to vines, and do not bear well.

Some recommend planting as soon as the middle of May, but in most seasons this is too early. They should not be planted till late spring frosts and long, *cold* rains are over—say from the 25th of May to the 5th of June, when the ground is warm and dry. The seed should not be covered more than one inch. The plants will be up in five days, and in two weeks will be ahead of those planted earlier.

Beans should be cultivated in drills two and a half feet apart, that the cultivator or shovel plow may be freely worked between them; and if the land is free from weeds the hand hoe need be little used.

Planting beans by hand, is a slow and tedious job. Where they are extensively cultivated, of course the planter will be used, but the small farmer who has not the facilities afforded by these implements, can yet grow his half acre or acre of beans profitably.

The labor of dropping may be greatly facilitated by a little Yankee ingenuity. Take an old tin coffee pot or tin pail, (one with a cover is better;) fix it to a handle sufficiently long to enable you to walk erect, while holding the dish near the ground. Punch a hole in the bottom large enough to let the seed through freely, and you have an implement that will not have cost you half an hours labor, and will do the work quite efficiently.

Mark out the drills, drop the seed from three to six inches, (the richer the soil the less seed) in the drills, when they may be covered by hands, or an expert plowman will cover them with a common or shovel plow.

Beans should be well cultivated; the ground frequently stirred and kept free from weeds, and my word for it they are a crop that will pay well. Try it farmers and report the result in the *Genesee Farmer*.

A. L. Hoyt.

Walton, Delaware Co., N. Y.

ON THE CULTIVATION OF SPRING WHEAT.

Spring Wheat is now cultivated to a much greater extent in this section than it ever has been before. Not having the severe winter to battle against, it is generally a more certain crop than winter wheat. The modes of cultivating spring wheat are various. If persons expect to raise good crops, they must prepare the land well. Land that is intended for spring wheat, should be summer fallowed and manured the previous year. Plow the land three or four times

during the summer, leaving it ridged up in the fall. Or where people cannot afford, or have not time, to summer fallow as much as they require for spring wheat, they can often raise very good crops by taking pea or potato land, plowing it as soon as the crops are off, giving it a dressing of manure, and ridging it up before frost sets in. In the spring, run a cultivator over it until it is well stirred up to the depth of three or four inches. Spring wheat requires a fine, mellow soil, *but not deep;* hence it is better to cultivate in the spring than to plow. Sow about the tenth or fifteenth of May, and you will generally evade the midge, the fly being gone before the wheat is far enough advanced for them to injure it.—Sow one and a half bushels per acre. If your land is in good order, this will be plenty thick enough.

The Fife wheat is the favorite among the farmers here, as it never rusts, however late it is sown.

Newcastle, Durham Co., C. W. J. E. Beman.

ON THE CULTIVATION OF RYE.

Of this grain we have but one species and but two varieties in this section that we know of, namely—winter and spring rye. Land containing a large proportion of sand is best adapted for rye, which is said to be the only grain that will mature on land containing over eighty-five per cent. of sand. Lands of this nature may be very properly called "rye lands." But rye is not confined exclusively to sandy soils; it will grow on almost any soil that is dry enough for cultivation. While it will produce better than any other cereal on poor lands, the richer the soil the more vigorous and luxuriant will the crop be.

Perhaps your Genesee farmers would do well to substitute winter rye for wheat in some instances. As a general rule, land that will produce but a light crop of wheat will produce a heavy crop of rye. It may be sown about the same time as wheat, not less than two bushels per acre, well harrowod in. It needs but a slight covering, and the land should be well pulverized with the harrow before sowing. Good land will generally produce thirty bushels per acre. We think rye is the most certain crop that can be sown on all soils. Rye may therefore be considered a great boon to the inhabitants of sandy and poor countries. Without it, many districts would have been almost uninhabitable. When fully ripe, the grain is easily shelled; therefore rye growers should observe Cato's maxim: "Secure your crop two days too soon, rather than two days too late."

H. H. Taylor.

East Rodman, Jefferson Co., N. Y.

ON THE CULTIVATION OF OATS.

The common white oat is most generally cultivated with us, and is probably best adapted to the soil and climate of this latitude. The chief peculiarities of this grain, and which distinguish it from nearly all others, is that it will grow on almost any soil, and may be sown year after year on the same soil with tolerable success. It will flourish on the coldest soils and on the most tenacious clays, as well as on poor sands and gravely land. The reason of this probably is that oats appropriate to their nourishment every particle which the soil will yield, and which would not be absorbed by other plants without time and tillage. When cultivated on a fertile soil, however, they are much more profitable.

Oats may be sown from April to June, but like all other spring grain, the earlier the better after the soil is dry enough to work. It is a well established fact that early sown spring grain, with very few exceptions, is heavier and better than late sown. A good way to raise oats, is to plow the land in the fall, and in the spring cultivate thoroughly with a two horse cultivator, and sow not less than three bushels of good clean seed per acre. Harrow in and roll down, and when a part of the heads are turned, cut and cure well, and the straw will make very good fodder especially if not more than half threshed.—The yield will be from ten to sixty bushels per acre, according to the season, richness of soil, &c.

H. H. Taylor.

East Rodman, Jeff. Co., N. Y.

ON THE CULTIVATION OF BROOM CORN.

The first thing of much importance in raising broom corn is the selection of a soil, and its proper preparation for the seed. It is asserted by some that any soil upon which Indian corn will grow and thrive, is equally as good for broom corn. This, however is hardly true. All cold, stiff, and wet soils should be avoided, also those which are infected with roots or noxious weeds. A warm, rich and finely pulverized soil is needed for the growth of broom corn, and after it has got started, great care must be taken to subdue and keep the weeds down, or the weeds will subdue the broom corn, and instead of tall, handsome stalks, you will have a few pale, sickly looking plants. Take my word for it, if you would have your broom corn tall and thrifty, you *must* subdue the weeds.

The ground should be manured, plowed and harrowed the same as if prepared for Indian corn, except perhaps, a little more pains must be taken in preparing and mellowing the soil. Plant as early as the weather will permit, say from the 20th of April to the 15th of May, in rows three feet and a half apart, and hills about twenty inches apart in the row. I generally plant about a dozen seeds in a hill, and at the second hoeing when the broom corn is about eighteen inches in height, thin out each hill to seven or eight stalks.

Ashes are very beneficial to broom corn, if strewed around each hill, but care must be taken not to have them lie against the stalks, or they will do more harm than good. The ashes will serve to keep the corn ahead of the weeds, which otherwise might over-run and destroy it.

I cultivate my broom corn three times during the summer, hoeing it each time, and at the last time hill up the plants a little as this will serve to keep them from being blown over by the August winds.

As soon as the seed has perfectly ripened, I go through my fields and "table" the head, which in other words means the breaking down of the top of each plant so as to remain in a horizontal position. Before severe frosts come on, I go through the field with a good sharp knife and cut off the brush just above the upper joint. The brush is spread out on a kind of rack or trellis prepared for the purpose.—As soon as the brush is perfectly dry, the seed should be separated from it which is done in various ways. I use the "comb," which is made by sawing a board

in the end so as to make teeth, through which I draw the corn until it is cleaned of its seed.

Last year I raised two acres of broom corn, but this year I intend to plant about five acres.

Lockport, N. Y. J. B. CLEMENT.

ON THE MANAGEMENT OF MILCH COWS.

SOME difference of opinion prevails among dairymen as to the best method of managing milch cows. In this article I shall simply give my views, which are the result of some fifteen years' experience and observation. First, then, I prefer what is termed the native cows to those imported, as being more hardy, easier kept, and producing more milk, butter and cheese, with the same amount of feed and care.

To make cows profitable for butter and cheese making, they should come in about the first of March, and be furnished with good warm stables, plenty of pure water, all the salt they will eat at least once a week, plenty of good hay twice or three times a day, and half a bushel of yellow carrots, each, once a day, until there is abundance of good feed in the pastures. Some feed corn meal, but carrots are decidedly preferable. The meal will increase the flesh, and is preferable to any other feed for fattening purposes; but carrots will produce more milk and better butter than any other feed, and at one-half the expense of feeding meal. Every dairyman should raise carrots enough to feed his cows from the time they come in, in the spring, until they are turned out to pasture.

Cows should be milked at six o'clock in the morning and at six o'clock in the evening, thus dividing the time equally. The milk should be drawn as quickly as possible by the milkers, and every cow stripped perfectly clean, as the last gill contains more butter than the four first; and if any milk is left in the udder, its effect will be to dry up the cow. Cows that come in the first of March, should be dried up about the first of December, and fed all the good hay they will eat through the winter.

Good native cows treated as above indicated will pay well until they are from fifteen to eighteen years old, when they should be well fattened on corn meal, and they will sell for as much as they cost when five or six years old, which is the best age for dairymen to buy. H. H. TAYLOR.

East Rodman, Jefferson Co., N. Y.

ON THE MANAGEMENT OF YOUNG STOCK AND WORKING OXEN.

IN the first place the calf should be kept growing, and never suffered to get poor and stunted in its growth. If the calf is permitted to suck the cow, it will no doubt do well enough; but as the milk is generally wanted for butter, a cheaper way should be pointed out—which can be done by taking the calf from the cow—the sooner the better—and learning it to drink new milk. After it is accustomed to drinking, its feed can be gradually changed to skimmed milk, warmed to the proper temperature, with the addition of a little buckwheat flour or Indian meal, with a little salt occasionally.

Should the calf get the scours, a feed or two of new milk will generally cure. When the calf is two weeks old, if in winter or early spring, give a little hay as it will by that time begin to eat. As soon as the grass is sufficiently grown, let it have the run of the calf pasture, and change its feed gradually to sour milk. In about three or four months wean it from milk, but continue to feed meal, and under no circumstances, let it fall away and get poor, but keep it continually growing.

The first winter the calf should have all the hay it will eat, together with oats, bran or meal, or little of each mixed together, and a few carrots or other roots once a day, will well pay for the trouble; and your calves will come out in the spring as slick and spry as race horses; and by the next fall, will be as large as two-year olds generally are.

The second winter they can have the run of the yard and coarser feed; but at this period a little meal with roots, once a day, will pay better than money at interest.

A young, and growing animal of any kind, in the winter season, needs a greater variety of food, and of a more nourishing character than the one of mature age. While the animal that has its growth, only needs food enough to keep up the natural wear of the system; the young one needs food sufficient, and of that character, as will furnish an increase of bone and muscle, in addition to the natural wear of the system. And here I would speak of the advantages of good warm sheds and stables for all kinds of stock. The food answers the same purpose for the animal, that the wood does for the stove; the warmer the room, the less wood will be required for the stove; the warmer the stable, the less food will be required to keep up the animal heat; and if a young animal, the greater will be the balance, to give a supply of bone and muscle to increase its growth.

WORKING OXEN should be stabled nights in the winter, especially towards spring, before the working season commences. If they are not worked much in the winter, they will not need grain until about the first of March, when they should be stabled and fed grain, or meal, but by no means feed corn, as it is too heating and produces fat, when muscle is what is wanted. They should be kept up either in the stable or yard, until the spring's work is all finished; and should not be turned out to grass while it is young and tender. If you want them to stand the heat, keep them up and feed them oats, as you do your horses; or perhaps a better way would be, to cut hay, wet it and sprinkle on oatmeal, and you will not only be astonished at seeing them plow, "bout for bout" with your horses, but they will also hold their tongues, and keep them in their mouths, where they should be.

Newfane, N. Y. C. C. WILSON.

ON THE MANAGEMENT OF BEES.

I SUPPOSE that you wish as many to write on the subjects mentioned in your list as will, so I will write you a few lines on the honey bee.

THE CONSTRUCTION OF PROPER HIVES.—I make my hives of common inch boards, two about fourteen inches wide, and two sixteen inches. This makes the hive just square. I make them twenty-two inches high with a partition eight inches from the top.—This gives plenty of room for the bees, and also for good sized boxes. I make a notch in the front board at the bottom one-third of an inche deep and three inches long. Then four inches above this I make one half inch hole, and another in the back side close up to the partition. These are for the free circulation

of air in the winter when the front entrance is liable to be closed up with snow. I find that hives where there is a free circulation of air are not so liable to be destroyed by frost. Unless there is some outlet for their breath it will soon form ice and freeze them to death. Always before hiving, be careful to see that the boxes are bottom side us. If this caution is not taken, the bees will sometimes commence to work in the boxes, and form their brood comb there. The boxes may be turned over the third day, as by that time they will have begun to work below.

On the Hiving of Bees.—Our bees commonly settle on a bush or tree. If on a low bush, I place a board on the ground and place the hive on that; but if a high bush or tree, I use a table. At all events, I place my hive with the front side next the bees, and raise it on two small blocks about an inch. Then bend down the limb in front of the hive and jar them off on the board. They will soon all be in the hive. If the limb cannot be bent down in front of the hive, it is a good plan to spread a cloth on the table; that prevents hurting the bees when they fall on the board. I always keep perfectly still while they are swarming and let them have their own way.

On the Management after they are Hived.—Our bee house stands east and west, with an open front to the south. As soon as it begins to grow dark, I take them and place them in the house where they are to stand, with their fronts to the south.—After this they need no further care, except to examine for millers and worms, and give them frequently a lump of salt. In the spring I turn them up and examine them, and break out about one half of the comb, taking it clean as far as I go. The next spring break out the remaining side, in this way the bees always have new comb. The bees may be kept quiet during the operation by blowing some tobacco smoke into the hive previous to turning it over. They will soon come to activity again and feel as well as ever.

Homer, N. Y. C. A. Howe.

ON THE MANAGEMENT OF WOOD LAND.

Wood land where there is plenty of wood for fuel and other purposes, as in new and unsettled districts, generally receives but little, if any attention; but in older settled places, where the native forests are becoming scarce, and wood is in demand for fuel, the farmer begins to turn a little attention to his wood land, and finds to his sorrow that all his best and nicest timbered land is cleared and he has not an acre of good wooded land on his farm. The above is the condition of a number of farms in this vicinity, but it will not apply in all cases.

All wood land that is desirable to save requires some attention, especially where fire is apt to be let out into the woods in dry times by some careless or knavish person, and burn the woods over every few years. I would say guard wood lands with a watchful eye against fire; and in cutting timber for fuel and other purposes, be sure and not cut young and thrifty trees, if there is timber down and decaying trees that will answer your purpose. In cutting trees out of your wood lot, cut first those in the most exposed situation that are liable to be blown down by hard winds. Preserve with care young and thrifty sprouts and saplings. Cattle should be kept out of woods of small growth where young sprouts are continually growing up and forming new trees; and I should recommend to keep all cattle out of wood land; and keep the underbrush thinned out where it is growing up thicker than it should stand to form a nice second growth grove.

By a judicious management I think a reasonable sized wood lot will keep a farm in fuel and timber, and grow all the time sufficient to replace that which is taken out for use. Isaac Randall.

Masonville, N. Y.

ON THE MANAGEMENT OF BARN-YARD MANURE.

The great object to be attained in making manure is to preserve all the *strength* (I will not use any big, blinding terms) of the manure. This comprises the whole thing, and it is easily done by never letting it *ferment* above ground. Horses, cows and oxen should always be stabled in our cold climate in winter. Their stables should have plenty of space behind them, a *tight* floor so as to place muck, saw dust, chip dung, or some other absorbent to retain the urine. The young stock, sheep and hogs should have a large yard, tight, warm sheds and plenty of straw, and other absorbents. There should be a tight bin or box under the shed and through the yard, having cross pieces two or three feet apart, so that one animal should not intrude without some difficulty on the next ones rights. These bins will prevent the fodder from getting "under foot" and prevent the hogs from rooting it. After the stock have eat what they will, clear the bins out, scattering it over the yard. To this add the manure and refuse from the stables and a quart of shelled corn to each hog. The hog is a wonderfully industrious animal, if there is plenty of corn for pay. They will turn the whole contents of the yard over once at least every day, mixing the whole together and add something into the bargain. Add to this in the winter as much swamp muck as you please—the more the better.

In the spring take this whole mass clean to the ground and carry it on to your land *before it ferments*. This is the secret. Spread it over the land intended for spring crops, or your summer fallow and plow the ground six or eight inches deep, taking special care to haul into the furrow and cover it all up. Here it will decompose; the roots of vegetables will find it and you get it back again to your garner without any loss of the organic substances.

Some advocate the doctrine of *top dressing*. There may be very wet seasons when it may do good, but I venture to say that one load of manure plowed in fairly below the surface is worth six loads laid on top of the ground to dry and blow away. Look at the droppings of cattle and horses on meadows, lying all summer in a dry mass and the grass no larger near them than any where else. Joel Houghton.

Adams' Basin, N. Y.

ON THE MOST ECONOMICAL MODE OF OBTAINING FERTILIZERS, OTHER THAN BARN-YARD MANURE.

This subject is too important and extended to be fully discussed in one short article, and I hope some of your able correspondents will do it full justice.—Having had some experience in the use of the various artificial fertilizers I will give you my views, not so much in hope of taking the "premium" as from a

desire to contribute my mite to the general fund of agricultural knowledge.

Peruvian Guano.—I consider this one of the most valuable fertilizers yet discovered. It is used to an enormous extent in England, and all the efforts which have been made to manufacture an artificial fertilizer equal to it for wheat and other grain crops, have as yet proved abortive. Its use on the impoverished soils of Delaware, Maryland and Virginia has increased the value of these lands in the aggregate millions of dollars over and above the cost of the guano. On this point there can be no doubt.—Yet it must not be inferred from this that the use of guano on all farms will be profitable. In fact I am well satisfied that it will not. If the land without any manure will produce fifteen bushels of wheat per acre, 200 pounds of Peruvian guano would make it yield twenty bushels per acre. The guano would cost $6, and where wheat is worth not more than $1 per bushel, the use of guano entails a loss of $1 per acre. If wheat is worth $2 per bushel, there will be a gain of $4 per bushel. The economy of using guano on such lands, therefore, depends on the price of wheat. The case is somewhat different on the impoverished farms of Delaware, Maryland and Virginia. The land there, in many instances, produces little more than the seed, and its cultivation would have to be abandoned but for the aid of artificial fertilizers. The use of 200 pounds of guano costing $6 produces a crop of fifteen or twenty bushels per acre, on land that could not be profitably cultivated without it.—Farmers there must either use guano or abandon their farms, and it is easy to see that we should be wrong in concluding from the fact that guano is there used with profit, and has doubled and trebled the value of farming lands, that its use would be profitable in sections where wheat can be grown with profit without the aid of artificial fertilizers.

But cannot guano be used with advantage on other crops than wheat, in sections where the land will yield fair crops without guano, but which nevertheless will produce much larger crops by the aid of guano? *I believe it can.* Take for instance potatoes: In ordinary seasons an acre of potatoes yields more money, (not, necessarily, *profit,*) than wheat. In the case of wheat, we have assumed that 200 lbs. of guano increase the crop *one-third.* If the same amount of guano will increase the crop of potatoes *one-third,* and a crop of potatoes is worth more than a crop of wheat, it follows that there is more profit from the application of guano to potatoes than to wheat. This is not a speculative conclusion merely. I have known 300 pounds of Peruvian guano increase the field of potatoes 100 bushels per acre. In other words, without guano, the yield was 100 bushels, and with guano 200 bushels per acre; and I might mention that the potato growers around Albany are perfectly satisfied that the use of guano is very profitable on their poor sandy lands.

The same remarks apply with equal truth to onions, carrots, tobacco and many other crops. On onions especially, I have found guano a very effective manure, and the relative high price of the crop makes its use very profitable.

Superphosphate of Lime.—I have not had much experience in the use of the manures sold under this name in nearly all our large cities; but I have made superphosphate from bones, burnt and ground, and used it with considerable advantage. I made it after a receipt given in the *Genesee Farmer.* Take 100 pounds of *ground* bones, (the finer the better,) and wet the bone dust with thirty pounds of water, and then add forty pounds of common oil of vitriol. In a few days this will form a plastic mass of rich manure, which I dry by mixing with it coal ashes, (wood ashes will injure it unless they are leached.) For lettuce, turnips, cabbage, celery, cucumbers, melons, and nearly all garden vegetables, except potatoes, this manure will be found very beneficial. It may be placed in immediate contact with all seeds without injury, and has a remarkable effect on the production on the small fibrous roots of the plant and pushes it forward rapidly to maturity. This effect is very marked on turnips.

I may here say that I would not be without superphosphate of lime or guano for my garden vegetables if it cost double its present price. Both these manures act rapidly, and are therefore under more immediate control. They can be applied at any time during the growth of the plant either in the dry or liquid state. They have the additional advantage too of being free from weeds.

Poudrette, Tafeu, &c.—Every farmer should manufacture this article for himself, and not *lose his money,* in purchasing the commercial article sold under these names. I have no hesitation in saying that a good, cheap commercial poudrette has yet to be made.

Compost Heaps.—No farm or garden should be without its compost heap. The limits prescribed to this article, precludes allusion to their management in detail, or to the substances of which they might profitably be composed. I may be allowed to say, however, that leaves, weeds, and decayed vegetable and animal substances of all kinds should find their way to the compost heap. The soap-suds and other waste liquid from the house should be thrown upon it, and if you have sufficient loamy soil to prevent all possibility of escape of ammonia, the spare wood and coal ashes, lime, &c., might be scattered on it from day to day as they accumulate. Pieces of woolen rags, scraps of leather, hair, dead animals, &c., when thoroughly decomposed without loss, as in a compost heap, afford the best of all fertilizers—more powerful even than the best Peruvian guano. I consider the compost heap one of the "most economical modes of obtaining fertilizers, other than barn-yard manure."

Mineral Manures.—Ashes, leached and unleached, lime, plaster, marl and other mineral manures, may be so used as to add much to the fertility of the farm. As a general rule, they are most useful applied to clover, peas, beans, turnips and other crops which obtain nearly all their ammonia from the atmosphere. Mineral manures seldom benefit wheat and other grain crops, but when applied to clover, peas, grass, &c., they increase their growth; and these crops, consumed on the farm, furnish an increased quantity of fertilizing matter of great value to the high priced cereals.

Irrigation.—In England and many European countries, nearly every farm has its water meadow, which is made to produce an immense amount of hay by irrigation. Boussingault considers these irrigated low lands the most economical source of manure. There can be no doubt that we have in this country thousands of acres of land that might be irrigated at little expense, and which would furnish, without man-

ure, immense crops every year. Hay so obtained would not only be valuable food for stock, but the manure obtained from its consumption would serve to enrich the upland portions of the farm. The same remarks apply to low land which only needs a little draining to make it produce immense crops. Nature has locked up in many of our swamps and swales, mines of fertilizing matter.

Peat and Swamp Muck.—On many farms it is easy to get these valuable organic manures. I have had but little personal experience in their use, and should be very glad to hear from those who have, especially in regard to the best manner of using them.

Bones.—I had nearly forgotton the old bones which might readily be obtained in considerable quantity in many districts merely for the picking up. That they are a valuable manure all who have used them admit, and it cannot be doubted that if collected and crushed they would be a "most economical" fertilizer.

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ON THE USE OF LEACHED ASHES AS A MANURE

The time has been when leached ashes were considered a great nuisance, so much so that ash hoppers were placed in some out-of-the-way place, and let remain there until the leached ashes formed such an embankment that it became absolutely necessary to remove the hopper to some other place. But those days have passed away, and leached ashes are now as highly esteemed here and elsewhere as plaster, and they do not cost farmers anything except the hauling and spreading on the ground. They have been found excellent for gardens, if put on at the proper time, and in the right quantity. I would recommend putting them on in the fall, and digging them in; if put on in the spring, there should not be as much used, and great care should be taken to have them *well mixed* with the soil. There is nothing better for grape vines: apply them every spring and fall, with other manures.

No farmer or gardener should be without a compost heap, and leached ashes should always be one of the principal ingredients. Leached ashes have been found valuable for wheat, if sown over the ground in the fall. Let a field be all of precisely the same kind of soil, sow it to wheat, and then ash one half and leave the other half unashed, and the difference is distinctly visible as far as the wheat can be seen. The part on which the ashes were applied will be greener and more thrifty during the whole summer, and when harvest comes the difference will be of that character which will convince you that ashes are not to be *despised* as being a *nuisance*; and unlike most other manures, their benefit lasts from three to four years, at least. On a slaty loam, leached ashes will perhaps have as much effect as on any other. On this kind of soil, if one half of the field is left without a dressing of ashes, and they are applied to the other half, there will be a marked difference in the two grain crops; and if then sown to clover, the half on which the ashes were put will yield at least one-third more hay than the other.

In the cultivation of the strawberry, leached ashes are very beneficial as a manure, as they make the ground open and porous,—a very desirable consideration.

Leached ashes are used with advantage on almost every class of crops, but especially as a dressing for grass, grain and Indian corn, though their immediate effects are most perceptible on clover, peas, beans, &c. Meadows that have lain out until they have become covered with moss, and consequently produce but small crops of grass, may often be renovated by the application of leached ashes. Indian corn will be very materially benefited by the application of a little around the hills, while it is small; they should not be suffered to come in contact with the plants. They may be applied to thin, sterile soils, in small quantities, with good effect; larger quantities would be too exhausting, and should be applied only to soils that are rich in vegetable matter, unless in connection with other manures. They should not be applied after lime has stimulated the land to the utmost, nor two years in succession, unless mixed with other manures supplying organic matter to the soil, and thus benefiting instead of exhausting it. In those soils which already contain much alkali, the soluble parts of ashes will be of little utility, and the leached parts will be very beneficial, if judiciously applied, for few soils contain so much phosphoric acid as not to be benefited by its application. John G. Sampson.

Laceyville, Harrison Co., Ohio.

ON THE USE OF UNLEACHED ASHES AS A MANURE

Unleached Ashes, in my humble opinion, are of far more value than many people imagine. I have used ashes as manure every year since I commenced farming, and so satisfied am I of their fertilizing value that I would not sell a bushel for twice or thrice the price paid for them at the asheries. I will give a little of my experience in the use of them, as the best that I can say in their favor. The greatest increase caused by ashes that I have known, by actual measure, was on potatoes, used as a top dressing, in the year 1846. After dressing my corn with ashes that year, I had one bushel left, which I put on eight rows of potatoes, which yielded at digging time one bushel to the row more than any other rows in the field. It was a sod land, turned over in the spring, and planted without manure of any kind. I have no doubt that the one bushel of ashes increased my crop of potatoes eight bushels. The rows were about fourteen rods long.

For corn, I think ashes and plaster, mixed at the rate of two parts of ashes and one of plaster, and a small handful of the mixture put into each hill, the best way to use them. This mixture I prefer to either alone, or both, used as a top dressing. I think it has made one-half difference in the value of a piece of corn, judging from one row left without the ashes and plaster, not from actual measurement. It was on ground without manure of any other kind. Ashes alone, as a top dressing, are very beneficial to corn. After it has come up, I find where I have used it so the stocks are larger and taller, the ears usually longer and better filled out, and the corn sounder and some earlier.

For spring wheat I have found ashes beneficial, sown broadcast as a top dressing, but my experience has been small with them on wheat,—limited to a couple of trials.

On grass, such as meadow, (I have never tried ashes on any other,) if it has run out, so that it yields but light crops, a dressing of ashes, fifteen or twenty bushels to the acre, has increased the crop of hay

two, three, and even four fold, and for several years after good crops of grass have been obtained.

I have never used ashes on wet land, nor with any other manure, with the exception of plaster.

I. RANDALL.

Masonville, Delaware Co., N. Y.

ON THE USE OF SALT AS A MANURE.

SALT has been used as a manure for grass lands, meadows, &c., in all parts of the world, with varying success. It is said to sweeten the herbage, and it is well known that when salt is sprinkled over a portion of a pasture, cattle, sheep, and horses will immediately repair to the salted part in preference to any other portion of the field. It evidently renders grass more palatable to live stock. Upon consulting the old treatises on agriculture we find that salt has been used in various agricultural operations from a very early period. Salt renders the earth capable of absorbing the moisture of the atmosphere, a property of the first importance, since those soils which absorb the greatest proportion of the moisture of the atmosphere, are always the most productive. Salt when applied to land in small quantities promotes the decompositions of animal and vegetable substance; and it destroys vermin and kills weeds, which are thus converted into manure. It is a direct constituent or food of some plants, and it has been clearly ascertained that if salt is applied to a soil the vegetables afterwards growing thereon are found to contain it in increased proportions. It acts upon vegetables as a stimulant and preserves them from injury by sudden transitions in the temperature of the atmosphere. That soils do not freeze so readily as usual when salt is applied to them is well known. Salt also preserves crops of turnips, cabbage, &c., from injury by frost. JOSEPH LEE.—*C. W.*

ON THE RELATIVE ADVANTAGES OF EMPLOYING HORSES OR CATTLE IN FARM LABOR.

ALTHOUGH I am decidedly of the opinion that cattle are the *cheapest* animals of the two, yet horses cannot be dispensed with; and the farmer should employ both. Horses are quicker and will get over more ground in a day than cattle, and this may be considered one advantage in employing them. But if cattle *are* slow, they are *sure*, and they have many great advantages over horses for farm labor. They can be kept at a much less expense; are not as liable to accidents as horses; will not run away if you cannot be close to them all the time; can be taken through the woods, swamps and other places where horses would be almost sure to get injured in some way. As a general thing they are truer at a heavy load, and are *much more easily managed* than horses. Suppose a farmer has a span of fine, well-trained horses which he uses in his farm labor, and changes drivers, or in other words, employs new hands, ten chances to one, they will soon be ruined by the awkwardness or ignorance of their new masters, for no two men manage horses just alike; and there are comparatively speaking, *very few* who know how to "pull" horses properly. I have seen steady, valuable animals almost ruined by the ignorance of new drivers who would balk and overload them. To "start" a pair of horses with a heavy load, especially if one is a little the "quickest," requires an amount of judgment which many hired men will not exercise. Instead of having the dull, sleepy drones which farmers generally have, when they *do* use horses, they should have the best kind, strong, active and spirited; but it must also be remembered that every ignoramus who hires himself to the farmer at ten or fifteen dollars a month, *cannot work them*, and the farmer must either employ dull horses, or always drive them himself.

These difficulties are in a very great measure obviated by using cattle. An ignorant hand can be taught to work them easier than he can horses. They are not half so liable to be injured under his management, and there is not so much difference between men in working them, so that they soon understand a new hand. They are so slow and steady that they are not worried with a heavy load like horses, and consequently do not need so much attention. Horses are also liable to a great variety of diseases, from which cattle are entirely free. DAVID STREET.

Salem, Ohio.

ON CUTTING HAY, CORN-STALKS AND OTHER FODDER FOR HORSES AND CATTLE.

THE general way of feeding hay, straw, corn-stalks, &c., is very wasteful, and far from economical. Hay and straw are generally fed by the fork-full, and the stock are left to eat what they choose and trample the rest under their feet. But if all their feed is cut and mixed with a little meal, they will eat it up clean; and the amount thus saved would appear almost incredible. Even though a farmer raise the most abundant crops, he cannot expect to "get rich" if he *wastes* them; and there is a vast of amount of money thrown away every year by careless feeding. Cattle will not eat corn-stalks up clean in their whole state, but when cut into pieces an inch or two in length and mixed with shorts or corn meal, they are eaten very readily. "A penny saved is two pennies earned," and I know from experience that cutting "long feed" for stock is an *excellent* way of saving pennies. It also prepares the food better for the stock, as it requires much less mastication.

Unless a horse-power cutting-box is used, the old fashioned long-knife box is the best I have ever met with, and I think I can cut as much with one of them in good order, as can be done with any patent, high-priced machine. DAVID STREET.

Salem, Ohio.

ON THE BEST SYSTEM OF ROTATION.

IT is useless at this day to adduce any arguments to prove the propriety, economy or necessity of a rotation of crops, this being, I believe, universally conceded, except, perhaps, by the possessors of the rich prairies or alluvial bottoms of the West.

The subject, then, comprises only the *best* rotation of crops; and this will vary according to the products cultivated in different sections of the country. Where Indian corn, oats, wheat and hay are the staple productions, and where grazing is practiced or cows kept for dairy purposes, the best rotation undoubtedly is the cultivation of those products in the order they are named, it being understood that the farmer depends on his own barn-yard manure as a fertilizer.

The first crop, then, should be Indian corn, planted

on the oldest pasture land — universal experience having proved that such land is the best adapted to this crop, owing, no doubt, in a great measure to the long rest of the soil from cultivated crops, and to the rich food furnished by the decaying sod. And in order to preserve the fertility of the farm, no more land should be plowed for corn than can be manured at the proper time in the course of the rotation.

The next crop should be oats, because they will grow on the partially exhausted soil better than any other crop. Some farmers sow wheat after corn, but it is not advisable, as the crop cannot generally be got in until too late in the season; and because it is attended with a great deal of labor, and when done the produce is generally small, unless the ground is manured; and because, if the land is sown with grass seed, grass will follow too soon after grass. Again, some farmers let the land lie fallow till the following season; but a sufficient objection to this practice is the length of time the ground remains unproductive. Oats, however, are a crop soon got in, and on ordinary land they are remunerative, and are harvested in time to give ample opportunity for getting in the wheat in season. Besides, the additional plowing and pulverising of the soil prepares it better for the grass which follows.

It is the practice with some to sow clover seed with the oats, and in the following season to plow down either a crop of clover or the depastured sod, and sow with wheat. This will almost always insure a better crop of wheat than can be raised on oats stubble; but grass does not succeed so well after it, and that is a very important matter. I pursued this course for eleven years, but was obliged to abandon it on account of the grass; for although the grass sometimes took finely and produced well for a year or two, yet it always would run out sooner than when sown along with wheat after oats. It is objectionable, also, because sowing clover with the oats and again with the wheat is clovering too much, and the land is apt to become "clover sick." Again, it is objectionable because the year that the ground lies in clover is in a measure lost. It is true it may be pastured in the fore part of the season, but cattle are not fond of clover alone, and do not thrive so well on it as on a mixed pasture; and if a crop of hay be taken off, it will at best be light, and will also be exhausting.

Wheat, then, should succeed oats, the ground having been well manured. With wheat, timothy seed should be sown, and, in this latitude, at the same time, and clover seed in the spring following. The grass, in ordinary seasons, will be good, and the timothy, or natural grass, will keep a sod on the ground till it is again plowed for corn.

Farms on which this system of rotation is adopted should be divided into seven or eight enclosures, having one for each of the crops of corn, oats and wheat, and the rest for hay and pasture. Here in Chester county, where this rotation is practised, and where farmers mostly turn their attention to grazing and feeding cattle, as well as raising grain for market, and where, too, it is customary to apply a coat of lime once in every course of crops, the land maintains its fertility, and large tracts of worn out land have been redeemed from sterility and made highly productive. L.

Chester County, Pa.

ON CHEESE MAKING.

There are three principal objects to be kept in view in making cheese. (1.) To obtain as much cheese as possible from the milk. (2.) To make the cheese of such a flavor as to suit the prevailing taste, and (3) to make it so as it will preserve its soundness till market time.

The quantity of cheese depends upon several items: (1.) The preserving of the nights milk so as to prevent the rising of cream. (2.) The care used in working in the cream. (3.) The care in breaking the curd, and (4.) Settling it so as to prevent any of it from passing off in the whey and in the first pressing.

The flavor depends: (1.) Upon the quantity of rennet. (2.) The care in keeping the nights milk from the least souring. (3.) The finely pulverizing of the curd. (4.) The height of the scald, and (5.) The quantity of salt. In large dairies the nights milk should be strained into a tin vat, which is placed in a wooden one a few inches larger, so as to admit a quantity of cold water to stand around it to keep cool. In case there is not a stream of running water, in very warm weather it is best to change the water once before retiring for the night. In the morning what cream is up should be skimed and warmed, and then added after the mornings milk is strained in — Some take off the cream. This not only reduces the quantity of cheese from two to two and a half pounds for every pound of butter the cream will make, but materially injures the quality.

The milk should be at about 70° Fahr. when the rennet is introduced, and enough rennet used to bring it to curd in thirty-five to forty minutes. When it is properly curdled, cut it up finely and carefully with a curd cutter, and after setting a few minutes, work it up carefully with the hand until the curd begins to harden and becomes well separated from the whey, dip off the most of the whey and raise the the heat to about 100° (many say 115 or even 120) by hot water around the vat, stiring it constantly. Then dip it into a sink in the bottom of which is a rack with a strainer cloth over it; some prefer scalding in this sink. The whey is then drawn off, and the curd well pulverized by rubbing with the hands. The salt is now introduced and thoroughly mixed with the curd. The curd is then put in the hoop in which is a cloth of rather close texture, and pressed moderately for two or three minutes; then press harder, increasing the pressure gradually for about five or six hours. Then take it out of the first cloth, put on the bandage, which should be drawn over the corners about an inch, put a fine cloth, cut to shape about as large as the cheese, on the top and bottom, turn the cheese the other side up and press from six to twelve tons, until the press is wanted for the next cheese.

South Rutland, Jeff. Co., N. Y. H. Hecox.

ON UNDERDRAINING.

Underdraining, though practiced but by comparatively few, is one of the best investments a farmer can make, if he has land which requires it. Its effects are almost magical; if properly done it converts stiff clay and boggy mudholes, that would produce nothing but coarse water grass and "pollywogs," into a loose porous soil that will repay liberally the labors of the husbandman. Nature has been depositing her wealth in these low places during all time; and as they have not been cropped since Adam was a little boy, we need not be at a loss to account for their exceeding

fertility, when the elements contained in them are developed.

In many sections of the country, draining tile cannot be procured at present without incurring great expense, but this need not be an obstacle in the way of underdraining, as a durable and effective drain may be made by filling with small stone. When stone are to be used, the drain should be dug one foot in width on the bottom, and in depth as the case may require, say from two and a quarter feet to three and a half feet. If the descent be not too great, lay a row of stones of uniform size, and as near square as they can be produced, on each side of the bottom of the drain, leaving a space of about four inches in width between the rows of stone; cover nicely with flat stone, and then fill with small ones, to within ten inches of the surface. Many who have had experience in draining, argue in favor of throwing all the stones in loosely in all cases. Where the descent is very rapid, this is decidedly the better way; but where there is no liability to wash, I prefer laying in a regular water course. When this method of draining is practiced on springy land, it serves a threefold purpose. It clears the land of small stone; it converts cold springy places into dry productive soil; and last, though not least, wherever a drain discharges, there will be good cold water for stock during the dry weather of summer.

Middleburgh, N. Y. W. Garnsey.

ON THE ADVANTAGES OF FORETHOUGHT IN FARMING OPERATIONS.

"Look ahead," says the tar to his comrade, when nearing the shore, "Watch the breakers." So say we to the farmer. In all your business, look ahead. No business can be successfully pursued without system, and least of all the management of a farm; and a well regulated plan of operations, is not the result of a random thought, but of reflection, based on knowledge, derived from experience, reading, or observation. The man who works his farm at random, labors to but little purpose. He may toil early and late—even to weariness, but disappointment will be the result. Much that he intended to do will be left undone for want of time, and what is undertaken will be but half performed, and often out of its proper season. Such a man wastes his time, his energies and his strength, in a round of toil and anxiety, without accomplishing much that is of any profit.

System requires a regular plan of business, properly digested by forethought, and the benefit of such a plan must be apparent, even at a casual glance It saves time and money and strength, and a vast amount of vexatious care. Let a farmer, during the long evenings and stormy days of winter, aided by two or three reliable agricultural papers, plan his business for the coming season, and he will be prepared at the return of spring to enter upon it with vigor and rational prospect of success. He has well calculated the relative strength of his forces, and will therefore undertake no more business than can, in ordinary circumstances, be successfully accomplished. His work, therefore, invites rather than drives him. He has settled beforehand what fields to plant, what to sow with the various kinds of grain, where and in what manner to apply his manure and other fertilizers, and the best method of cultivating the various crops.—Each branch of business is therefore attended to at the proper season and in the best manner. The various crops are not cultivated in a hurried and slovenly manner, but the work is well done.

He also reaps the benefit of forethought in another respect He is not only up with his business in point of time, but his tools are all in working order at the proper season. Having a place for every thing, and every thing in its place, he knows where to find each article when wanted. His tools have been examined during his leisure, broken ones have been repaired, and new ones that are needed purchased. When ready to engage in any business, he does not have to waste time by running to the blacksmith or to the carpenter to get his tools repaired nor to his neighbor to borrow, where he is liable to disappointment, and to have his work thus hindered.

The same principle will lead him to have his seed in readiness for planting and sowing. Care is necessary in this respect, in order to have that which is free from a mixture of foul seeds, and such as will readily germinate. The prudent, thoughtful farmer will save his own and not depend upon his neighbor. He thus knows the article he sows or plants, and is not liable to have his calculations disappointed by a poor one. If he wishes to exchange with a neighbor, or is under the necessity of purchasing, he does it in season, before the market is drained and is compelled to take an article comparatively valueless. He secures the best that can be obtained, and is not therefore liable to disappointment in harvest.

As a part of a systematic course of farming, the fences will all be put in repair at the opening of spring; timber will be cut at the proper time, and not left until the moment needed; and thus the owner is not necessitated to leave his plow standing in the furrow, nor his scythe in the swath to mend a dilapidated fence, to keep his own or his neighbors cattle out of mischief; he can lie down and sleep quietly at night, feeling that his crops are secure.

The advantages of forethought are also seen in the management of stock. The prudent farmer will keep no more than can be kept in a thriving condition.—He calculates well the amount of feed his farm produces, and therefore regulates his stock accordingly. He considers that an animal that is well housed, and regularly fed, and all its wants cared for will thrive on much less food than one that is fed at irregular intervals, and is left without shelter during storms and cold; he therefore provides comfortable shelter for his animals, as well as for himself, and a sufficient quantity of nutritious food. He is not obliged to spend all his income to purchase feed to keep his half starved stock through the winter.

Thus the advantages of forethought may be seen in every part of farm management; while the random farmer fails in his crops, exhausts his soil and spends his time in hurried, fretful, anxious toil, without hardly securing a comfortable livelihood, the man of preconcerted system grows rich, his farm increases in beauty and value, he has more money in his pocket, more leisure for making improvements, and for the enjoyment of social life, and less anxiety and vexatious care. His farm becomes a model for imitation and he a benefactor to his race. His abundant harvests furnish a supply for his wants and those of his family, as well as the animals dependent upon his care; and when dreary winter approaches, they are all well cared for, and he can enjoy his comfortable fire side, and eye the gathering storm, or hear the tempest howl without, and heed it not. Hubert.

ON SUBSOIL PLOWING.

Much might be said on the subject of subsoil plowing; for instance, we might go on and state many experiments, and make many assertions, which should weigh very light unless backed up with reason. It is a well known fact that soils vary much in character; hence it is necessary that a different mode of cultivation be adopted to suit different soils. Some soils are of a rich loam, on a subsoil of sandy gravel; to stir up this subsoil would be worse than useless, as the loam is already loose enough, and the surplus supply of water will readily sink in such a substratum and drain off. The same may be said of very sandy subsoils. But, on the other hand, if it be a *clay* soil, then the subsoil plow becomes necessary; and should the subsoil be what is commonly termed *hard-pan*, then the subsoil plow would be absolutely indispensable to good farming. For illustration, suppose we take a clay soil, plow it four or five inches deep, pulverize it well, and sow it with winter wheat; when the heavy fall rains come, the whole field will be covered with a bed of mortar; the wheat cannot grow; the subsoil is so compact that the water cannot sink; winter sets in, and the wheat is frozen up in a perfect bed of frozen mortar. When a thaw comes, then the soil is again almost in a liquid state; consequently, by the alternate freezing and thawing, the plants are nearly all destroyed. Then under the dry wind and hot sun of summer, the soil becomes perfectly hard, and the few remaining plants cannot grow. To prevent these evil consequences, very deep or subsoil plowing will have a good effect, by causing the water to sink below the roots, thereby causing the grain to grow vigorously; and when the drouth comes, this water will be brought back by capillary attraction to the support of plants. Such being the case, we may expect a luxuriant growth and a good crop.

Subsoil plowing also admits the air; the soil becomes deeply pulverized; consequently the roots will reach to a greater depth for food. The above reasons are applicable to all other grains, but more particularly so with respect to Indian corn. If the subsoil be deeply plowed, heavy showers will quickly sink, enabling you to attend the corn crop more steadily; and when the drouth comes, the water will again be brought back to to the surface for the use of the plants. Hence it will be seen that deeply pulverizing all clay soils will greatly increase the chance of a good crop of any kind of grain.

Newcastle, Lawrence Co., Pa. Wm. Reno.

ON THE ADVANTAGES OF STIRRING THE SOIL IN DRY WEATHER.

That frequent stirring the soil is the cheapest and most effectual way of protecting crops against drouth, is proved by the fact that a soil plowed or cultivated often in dry time is moist almost to the surface, while land that is neglected, is dry to a great depth. Some farmers from false reasoning infer that if a new surface is continually exposed to the sun and air, the effect will be to dry the soil still more. But the atmosphere in the hottest and dryest weather is more or less charged with moisture, to prove which we have only to present a cold surface to the atmosphere, as a pitcher of ice water for instance, when the moisture of the air will be condensed and form in large drops on the outside of the pitcher. By frequent stirring the soil it is kept loose and porous, the air can penetrate to a greater depth and coming in contact with the cold earth is robbed of its moisture by condensation, in the same manner as in the example of the pitcher given above. The oftener the soil is stirred the more new surface will be presented for action in the same manner; but when land is suffered to remain idle, a crust is formed on the surface which is impenetrable to the atmosphere and no such effect can take place. C. C Wilson.

Newfane, Niagara Co., N. Y.

ON THE ADVANTAGES OF SYSTEM IN FARMING OPERATIONS.

System is very necessary and important to man, in whatever occupation he may be engaged, but especially so to the farmer, whose business is composed of so many parts. It is a thing of every-day occurrance to see plows lying in a corner of the field where they were last used, a hoe or a rake leaning against the fence, or a fork sticking in a manure pile in the barn-yard. Now this is not as it should be; every farmer should have, and every systematic farmer will have, a tool-house, and his tools carefully housed in it (except when in use)—a place for everything, and everything in its place—a time for everything, and everything in its time.

A farmer who thus manages his business, will find that he can get along without being hurried; he is always ready for his work as soon as it is ready for him—while his less systematic neighbor is in a continual hurry and bustle to keep up with his work, which, of course, is left in an unfinished state. Every farmer should adopt some regular system of business, and live up to it at all times, as he will lose more time and money in leaving his tools and utensils lying around exposed to the weather for two or three years, than would enable him to build a tool-house and do everything necessary to carry on his business with system and economy.

Mahoning, Pa. W. H. McCreery, Jr.

ON THE BENEFITS OF AGRICULTURAL FAIRS.

Agricultural Fairs are calculated to have an influence of the most beneficial character upon intelligent farmers, affording them an opportunity of knowing what is going on in the agricultural world around them, and enlightening them by the experiments and improvements which are continually being made, and which are shown to the public at these places. Agricultural implements of every description are here exhibited; stock of all varieties and degrees of value meet his eye; and he has not only the advantage of perceiving the progress which is continually being made, but by comparing the different kinds of implements, and examining the comparative merits of stock, he may obtain great pecuniary advantages in his subsequent operations.* If he wants any kind of stock, from a pair of fancy rabbits or Shanghai chickens to a blooded stallion or Durham bull, *here* is the place, and the only place, where he can find *any* and *every* kind, and take his choice from the *very best* of the country. If he wants an agricultural implement, from a cutting-box to a mowing machine or steam engine, *here* is the place to find *all* of

the *most improved* kinds together, and he is left to choose. In short, Agricultural Fairs are the great repositories of knowledge to the farmer, where he may improve his own condition by taking advantage of the skill and genius of his bretheren. When properly conducted, they are *among* the most valuable institutions of the country. DAVID STREET.

Salem, Ohio.

ON THE CULTIVATION OF PEAS.

THERE are several varieties of peas cultivated in this country, of which we think the large Black-eyed Marrowfat has the preference; it produces as well as any other, and is decidedly preferable for cooking, and commands a higher price in market, being worth at the present time two dollars per bushel.

Although it must be admitted that peas thrive best on a loose, well pulverized soil, yet they do well on some of the heavier soils. We generally get good peas on land that will produce corn or wheat. Sward land almost invariably producing good crops, provided it is turned over in the fall and plowed deep, thoroughly cultivated in the spring, and the peas sown as early as the land will permit, not less than three bushels per acre, well harrowed in and rolled down. They will yield from fifteen to thirty bushels per acre, and will be ready to harvest early, leaving the land in fine condition for winter wheat or rye.

Would not your Genesee farmers do well to turn under their clover in the fall, sow peas early in the spring, and follow with wheat, instead of summer-fallowing, and get their pea crop almost clear gain. If sown thick, say four bushels per acre, they will leave the land when harvested almost as clean and mellow as a summer-fallow. H. H. TAYLOR.

East Rodman, Jeff. Co., N. Y.

ON THE CULTIVATION OF THE PEACH.

FOR many years past the dwellers in Western New York have relied upon their peach trees to furnish annually a full supply of the choicest specimens of this most delicious of all fruit; and in former times this result seldom failed. The comparative exemption of this region from late spring frosts, and very severe cold in winter, have contributed much towards this state of things; and perhaps, more even than these, is the fact that we have been free from the destructive effects of yellows, which reduces the lifetime of orchards south of us to a few (say four or five) years duration. In this county it is not now difficult to find trees thirty years old and healthy still.

Of late years, we are aware of a very decided falling off in the productiveness of the trees, and also in the vigor of their growth; the trees do not retain that perfection of health in all cases which we formerly saw, and we look to the future with much solicitude.

The remarks which we have now to offer will have reference to cultivation of the fruit in our own region, and be somewhat affected by the facts above mentioned, but which we have not space to dwell upon. To succeed well in growing peaches, it is necessary first of all to secure a favorable location for the orchard; this should be upon land having a very thorough natural underdrainage; if sandy loam can be had it is preferable. A very thin sand will not give best quality of peaches or most durable trees, but a warm, dry and rather rich soil should if possible be secured. The earliest varieties should have warmest exposure to bring the fruit on in good season. Secure thrifty, one or two year old budded trees, of a few well proved varieties which will ripen in succession, from the earliest good hardy varieties, to the latest that is sure to ripen off handsome, well flavored fruit. There are many kinds of good peaches which are too unproductive to be worth planting, except to the curious amateur. If praticable secure the judgment of an experienced man in making up your list, and buy trees where you will be sure to get the *kinds* correct. Plant the trees in April, or the first of May, shortening the heads well back, and using care that the roots are never exposed to wind or frost.

The land should be deeply plowed before planting, and cultivated with some hoed crop all the time until the trees are in bearing, when no crop should be taken off, but the land kept clean and mellow with plow and cultivator, manuring with stable manure if the trees are not vigorous enough. Avoid planting too closely—twenty feet apart each way is near enough, and twenty-four is better.

When the trees come into bearing do not spare a little pains in thinning the fruit on very heavily loaded trees, do this when the fruit is half grown and the superior size and quality will be reward enough; overloaded trees always have insipid fruit.

Examine the collar of every tree in June and see that all the grubs are dug out, follow them under the bark with a stout knife and kill them. They destroy many trees, but never give them the "yellows."

Peach trees require but little pruning besides the removal of dead wood; we do not approve of the system of "shortening in," except in case of very rampant limbs, which disturb the proper form of the head. The fourth summer after planting a fine crop may be expected, and with good care ten years of bearing ought to be secured from hardy sorts.

The obstacles to peach culture here are mainly the curling of the leaf, which occurs just after the commencement of the growth of leaf and blossom, and the destructive effects of cold upon the tree and fruit. I am not satisfied that the curl is not caused by the cold of winter so affecting the buds as to prevent a healthy development of leaf. But whatever be the cause, the effect upon the tree is very injurious, causing the loss of foliage and a large share of the fruit. If it be very severe, the tree languishes for a considerable time, and only regains its vigor after a new growth of leaves and wood. I am not able to give any *remedy* for this disease; but the best counsel I can give is to plant only those sorts least affected by it, (for there is a great difference,) and to plant trees enough to answer as a protection to one another, it being always found that detached trees are far worse affected than those standing in the orchards; indeed, this has become so manifest that we cannot help observing crops upon the peach orchards, while our garden trees are entirely destitute of fruit. The effects of winter and spring frosts upon peach trees we have so little power to avert, that we can only say, plant and run the risk. The following varieties answer very well for the cultivator for market purposes:

Early York, (serrated leaf,)	25
Crawford's Early,	25
Oldmixon Freestone,	25
Oldmixon Cling,	10
Red Cheek Melocoton,	15
	100

To these I would recommend the amateur to add Fay's Early Autumn, Early Newington, or George the Fourth, or Haines' Early, Cooledge's Favorite, Hill's Chili, Scott's Nonpariel, Langworthy's Late Rareripe, and Noblesse, or Malta. H. E. H.

Rochester, N. Y.

ON THE CULTIVATION OF APPLES.

Let your field have a northern exposure if possible. Spread, in the spring, at least fifty loads of good barnyard manure on the acre; let it remain until the grass is at least knee high, and then turn under; plowing at least ten inches deep. Back-furrow in beds sixteen feet in width, taking care to give the dead furrows sufficient descent to drain well, but not so steep as to gully. As soon as you have plowed under the grass and manure, sow one half bushel of buckwheat to the acre and harrow in well. In the fall just before the buckwheat gets sufficiently ripe to grow, roll down and plow under, plowing the same way, making the back and dead furrows come in the same places as in the first plowing. By so doing you will make dry beds for your trees, and the furrows will take off the surplus waters. In the spring plow same way as before, but not deep. Dig holes in the centre of the beds twenty-five feet apart, taking care to have the holes no deeper than the trees set in the nursery.—Place the tree in the hole and fill in with one-third compost and two-thirds soil, putting the dirt two inches above the level of the ground. Plant in the quincunx form, by doing which you save ground.

Now you may cultivate beans and root crops generally in your orchard, but never grain or grass. Manure once in three years, forking it in around the trees. Do this and you will never regret it. I know what I say. G. C. Lyman.

Lynn, Pa.

ON THE CULTIVATION OF THE PLUM.

The great drawback to the cultivation of the plum, has been, and still continues to be, the ravages of the curculio, which is well known to every person who has ever attempted to cultivate plums. The next great evil is the black knot, which troubles trees in most localities. The best remedy for this is thorough cultivation, and to cut out clean all spots as soon as they appear.

It is generally known that the curculio will not deposit its eggs over paved walks, water, or any place where their young will not thrive when they fall to the ground. The most effectual way to exterminate this pest, (as practiced,) is to spread sheets on the ground, and jar the fruit that has been stung upon them.

The following scientific plan, which is not universally known, will bear considerable experimenting: It is well known that the plum is a marine plant, and where the salt spray breaks over them the whole crop ripens finely, while upon the heights above the whole crop is lost. For a remedy, apply salt lye or salt brine to the earth pretty freely, as far out as the branches of the tree extend. The young of the curculio cannot live in ground saturated with the above described liquid. If this proves to be an effectual remedy, it will be an important era in fruit culture.

Rochester, N. Y. B.

ON THE CULTIVATION OF SMALL FRUITS.

Strawberries have excited considerable attention of late from horticulturists, and this has been increased by observing the improvement resulting from cultivation, and the enhanced value of the fruit. Much has been written about the necessity of selecting staminate and pistillate plants, or male and female; and so particular have some writers been as to prescribe precisely the number of each to be planted, in order that a specific ratio be observed. However true this may be *theoretically*, I am inclined to doubt the utility or superiority of the rule in its application. I believe that the following method of planting strawberries, and cultivating them, to be more practicable, certain and comprehensible than any I have seen: Prepare the ground (which should be rich, sandy soil,) by the application of good barnyard manure, leached ashes, or any other compost; after which plow deeply, mixing the manure well with the soil. When the ground is prepared carefully, as above stated, set your plants in rows, about four feet apart, the plants two feet distant from each other. If ever desirous of enlarging your strawberry bed, after the first plants are set out, go while the plants are bearing, and select the largest and healthiest, (those which bear the largest berries,) and if the weather is favorable you may immediately transplant them; and having sufficient female plants, the staminate, in sufficient abundance, will invariably be produced.

A far more important consideration than the pistillate and staminate rule in the culture of strawberries, *is the entire destruction of weeds.* I am inclined to doubt the advantages of that plan which prevents the vines from covering the entire bed, as I think experiments have demonstrated that they yield better when new vines are being added, and it is a known fact that in an uncultivated or natural state, this is the case. By the removal of the non-bearing plants and weeds, the remaining plants will have ample room for development, as well as being in a state to receive the light and heat of the sun.

Raspberries are not so profitable as strawberries; and though they require less labor in their cultivation, are not so universally cultivated. A little exertion in planting some cuttings along your fence, and then of placing a slight frame to prevent them falling to the ground after they have attained a large size, will amply repay any one. To increase their number, you may thrust the tops of the bushes into the ground, and they will thereby take root.

Currants generally thrive in almost any kind of soil, and are very easily cultivated. In setting currants, the soil, in the first place, should be well prepared by plowing or digging, and reduced to a very fine tilth, and should then be stimulated by warming and invigorating manure. A porous, or not too retentive subsoil, is desirable, with a small per centage of clayey matter in the surface soil. When the latter is deficient, it may be well to supply it. Into soil thus prepared, the cuttings from old plants—the fresh, vigorous wood of the previous year's growth—may be set, with an almost certain assurance of success. These should be cut off near the surface, and inserted in the lines or beds to the depth of six or seven inches, and the soil well compressed about them. The surface should then be covered with old, well-rotted chip manure, hay, leaves or straw, so as

to keep the ground at all times moist. They should be kept well weeded.

Gooseberries.—With good treatment, none of the small fruits produce more abundantly than the gooseberry. It succeeds best on a deep, sandy loam, with a northern aspect. It should be trenched, or else worked two spades deep, and enriched with well-rotted manure. To prevent mildew in gooseberries has been the object of horticulturists for several years past. If they are fully exposed to the rays of the sun, nothing short of mulching will prevent the mildew. In order to prevent the necessity of mulching, plant them on the north side of a board fence hedge or stone wall, two or three feet from either. Give them a liberal dressing of compost fall and spring, and keep down the weeds, in order that the air may circulate freely.

Blackberries, like all other small fruits, can be greatly improved by cultivation. The principal varieties are the Lawton and Highbush, the latter of which is a native of New England, and is generally very large.

John G. Sampson.

Laceyville, Ohio.

ON THE MANAGENENT OF A FARMER'S GARDEN.

Being a farmer, and something of a gardener too, I thought I would attempt an article on the above important subject. I will premise by saying that no one should consider himself qualified to manage a farm until he has learned to manage a garden. The first thing in laying out a garden, is to select a proper site and soil. If a deep, rich sandy loam, with a southern or south-eastern aspect can be found within a reasonable distance of the house, there plant your garden. That the soil be rich and mellow is of the first importance, for few farmers will have the perseverance to make a good garden on a cold, compact, shallow soil.

The garden being located, do not enclose too much ground in your plat. The farmer must depend upon raising a good many vegetables upon a small space, otherwise his garden will very likely be overrun with weeds.

These cautions being observed, first select the ground for your permanent beds, such as strawberries, asparagus, rhubarb or pie plant, &c. If you care nothing for these luxuries yourself, the wife and children will, and the sight of their enjoyment will amply repay you for all your labor.

Strawberries.—You may transplant roots from last year's runners of the Large Early Scarlet, Burr's New Pine, Hovey's Seedling, or any variety that you *know* to be better than the above, in the *poorest* part of your garden, during the month of April. If you want luxurient *vines* and few berries, plant on deep, rich soil, but if you prefer the berries to the vines, do as I tell you.

Asparagus.—Make your asparagus bed as early as practicable in the spring, from roots two or three years old. Be sure to dig deep and manure heavy.

Pie-plant.—For your rhubarb patch, procure from half a dozen to a dozen plants two or three years old, and divide the roots according to the number of eyes, and set them in rows four feet apart, two feet in the row. By proper care you have here the material for the most delicious spring pie.

If properly attended to, these beds will keep good for many years, with the exception of strawberries which require renewing once in three or four years. The better way is to set a few plants every year, and then you are never without this delicious berry.

Currants, Gooseberries and Raspberries should be planted *in* the garden—not round the fences—and kept cleanly cultivated. By the way, a correspondent of the *Genesee Farmer* asks for a remedy for the Currant Bush Worm. I had a row of currant bushes in sod along the fence, and several rows through the garden at right angles to that one. The latter were hoed several times in the season. For several years the bushes in the sod have been regularly stripped of their leaves during the bearing season, by a little green worm, while the cultivated ones have escaped untouched.

Hot-bed.—A farmer would do well to make a small hot-bed to forward a few York cabbage, tomatoes, cauliflower, celery, and a few hills of cucumbers.—The latter can be started on inverted sods and transplanted without injury. This process not only produces fruit much earlier, but enables one to get the start of weeds.

I would not recommend raising large beds of such vegetables as require much hand weeding, such as carrots, parneps, beets, Black-seed onions, &c.; it costs too much labor. The English potato onion, or Top onions require much less labor and are earlier.

Peas.—The farmer should have a succession of peas from the middle of June until the family gets tired of them. Beginning with the Early Kent, following with the Early Washington, and closing with the unrivaled Marrowfat.

Beans.—I prefer the bush varieties of beans as you save the labor of poling them. Then, growing near them should be some of the best sweet corn, and then if the good wife don't make some succotash that will rejoice the children, it will be because she never heard of "down east."

But space will not permit me to notice all of the different vegetables which it is desirable to have in some nook or corner of the farmer's garden, so I will say in general, cultivate all the varieties that will be readily consumed in the family, and above all keep up a succession throughout the season—yes, throughout the year—and be assured it will improve the health, refine the taste, elevate the morals, and augment the happiness of the whole family.

Near Palmyra, N. Y. P. C. Reynolds.

REASONS WHY OUR AGRICULTURAL SOCIETIES SHOULD OFFER PREMIUMS FOR A PUBLIC EXHIBITION OF LADY EQUESTRIANISM.

Years ago, I remember to have seen a beautiful engraving of Cupid riding a lion, to show the power of love in subduing and controlling the most ungovernable of the brute creation. But may it not be questioned whether a skillful lady, riding a noble horse, does not present a more striking representation of *power* controlled by *gentleness?*

Ideas of beauty and taste are as varied as the human race, and yet I may safely assert that the sight of a woman gracefully, yet fearlessly, riding a spirited horse, having him entirely at her command, as if animated by her own ideas of grace and beauty, would excite admiration in every beholder.

More than this: female equestrianism is not only

a delightful art, but it is of all others the most invigorating and healthful. All intelligent physicians agree in the fact that horse-back riding is strongly conducive to health, and especially so to the health of ladies, whose occupations, for the most part, deprive them, by far too much, of the health-giving influence of *pure, fresh* air.

Why, then, should not every honorable inducement be presented to ladies to perfect themselves in the equestrian art? Why is it not only proper, but *best*, that our Agricultural Societies should encourage the "art?"

I know there are some whose ideas of "the eternal fitness of things" are somewhat shocked by the appearance upon our "Fair Grounds" of lady equestrians. But let me ask all readers, what rule of propriety is thereby violated? and what dictate of modesty is disregarded? You whose fine (?) sense of female delicacy is so much disturbed by a public exhibition of lady equestrianism, would be highly pleased with a private exhibition of the same; but where is the line of demarkation which makes the *one censurable* and the *other praiseworthy?*

I know that public exhibitions of lady equestrianism, like all other *good things*, are liable to abuse; but I most earnestly contend that, of themselves, they are "right and proper," and should be encouraged by Agricultural Societies. ANN H.

Madison, Ohio.

REASONS WHY OUR AGRICULTURAL SOCIETIES SHOULD NOT OFFER PREMIUMS FOR A PUBLIC EXHIBITION OF LADY EQUESTRIANISM.

1. *The place and occasion of these Annual Fairs are not suitable for an exhibition of lady equestrianism.*

The crowded state of the Fair Grounds with horses and carriages, and the throng of spectators surrounding a course of short curves, and many times actually blocking up the way, renders the place too much confined for a successful and safe exhibition of this kind. Under such circumstances, there cannot be, with either horse or rider, unaccustomed to such scenes, that unrestrained freedom which is essential to a fair and satisfactory trial.

Timid and shrinking, the rider is compelled to the most public display—to meet the gaze and hear the vulgar jest, often at her expense, of the lowest of the other sex. No young lady appears as a competitor under these circumstances, but does violence to those tender sensibilities which are a part of her nature, and to that delicate sense of propriety which she is so wisely taught to cultivate and foster.

2. *It proves inadequate to secure, in any tolerable degree, the object ostensibly sought.*

Few prizes are offered, and few therefore can be awarded. Few compete for the premiums, because few have been induced to prepare for the exhibition. These prizes, therefore, act as inducements to only a few to improve their equestrian skill. Those who are possessed of a well-trained pony are *occasionally* induced to try the experiment and compete for the prize. With much effort, from six to twelve have been found willing to brave the unpleasant circumstances of the exhibition at a State or County Fair; and these constitute the majority of all those who have been induced to pay any extra attention to the matter. Say from ten to twenty, in counties numbering twenty, fifty or one hundred thousand inhabitants, have spent a few afternoons to improve their skill, preparatory to the exhibition. At this rate, how very soon all the young ladies of the country will become expert equestrians! Let it not be said that all this is equally true of prizes offered for other objects. Other exhibitors have stronger inducements than the prizes, which rarely cover the unavoidable expense of the exhibition. The owner of a farm finds his inducements in the enhanced value of a "Premium Farm;" the owner of stock in the increased value of "Premium Cattle;" while the successful lady equestrian, in addition to a little silver, has the *honor* of a degree *only* of skill above her sisters, which will not greatly add to her *market* value.

3. *It is not necessary to secure the object.*

It may be desirable and important that this healthful and invigorating exercise should be more generally practiced, but no encouragement of this kind is needed to make it a popular recreation. If this is made to appear, no good reason can be adduced for offering premiums. And that this is true, will, I trust, require little argument to prove to the satisfaction of those who have observed (and who has not?) with what delight young ladies and girls seize every opportunity for a ride on horse-back. Indeed, they may be said to have a passion for this exhilarating exercise, so congenial to buoyant youth. Now, will such wait to have some Agricultural Society offer prizes before they will venture upon the experiment of a horse-back ride? They will wait so long as they are obliged to wait for a chance to ride, and no longer. How many fathers can testify to the importunity with which they have been beset by their daughters to let them have "Old Dick" to go riding. We may, therefore, safely affirm that for fathers to furnish their daughters with pony, bridle, side-saddle, riding dress and whip, with an approving smile, are all the premiums needed to secure the practice to any desirable extent. If there are any young ladies so stupid, who, with these at hand, will not readily use them, no premiums need be offered. They will fail to bring them out.

If you wish your daughters to become skillful equestrians, furnish them with means of gratifying their love for this active sport. We ask not for prizes, nor for the honors of successful public contest. We are content with the privilege to gallop with our friends through the pleasant and quiet streets of our own dear village or neighborhood. With this, our success shall more than gratify the vanity of doting fathers, who may too much value this masculine amusement.

4. *There can be no object gained which will justify so questionable an innovation.*

We have seen that it is *not necessary* to secure the practice. What objects, then, are to be promoted by it? We see none, except it be to bring out the crowd, and to add a few dollars to the funds of the Society, by seeking to make its Annual Exhibitions more attractive by a display of lady equestrianism. This, we have reason to believe, is the real object sought in offering prizes. We cannot believe that intelligent men regard this measure at all necessary, even to make the practice universal; and we think they will not seriously pretend this to be their object. But, acting upon a well known principle, they hope to increase the interest, and fill the trea-

sury, by introducing a circus of ladies upon the course. Now, it requires no stretch of the imagination to see that this is a public endorsement of the circus. Why, these circusses must be useful institutions, to merit imitation and draw imitators from so high a source! They must soon become indispensable institutions of every town, so important are they! Is it well for these Societies to bedim their hitherto fair fame, even by a *seeming* recognition of so unworthy an aspirant for public favor and patronage, for the little that is to be gained to its funds? Is not this paying too much for the whistle? May not these exhibitions be made sufficiently attractive, in the pursuit of proper objects, to amply sustain them, without a resort to anything which can be regarded of doubtful propriety? Societies have not only lived, but flourished, before the introduction of this practice. What Societies have done, they may still do. So we do not find any good purpose answered by an exhibition of lady equestrianism.

5. *It is not the legitimate work of these Societies, and can receive premiums from their funds only in violation of the law creating them, and of the rules regulating their management.*

The New York State Agricultural Society, in conformity to the act of incorporation, has for it objects the "Improvement of Agriculture, Horticulture, Mechanic and Household Arts." The County Societies which have been organized under the law of 1855, and in conformity to it, have for their objects the "Advancement of Agriculture, Horticulture, the Mechanic Arts, and Household Industry." And the Board of Managers, in appropriating their funds, are restricted to these objects.

Now, to which of these departments belongs lady equestrianism? Very clearly it belongs to neither, and therefore can share the attention and funds of these Societies only in violation of their design and rules. This is a departure from the clearly defined pursuits of these Societies—a breaking over the barriers raised to secure the objects of their organization. It is opening a door through which other interests, of a more questionable character, may come in and claim their aid; for if they may leave their proper field of operations to promote one object foreign to their designs, they may also to promote others. And where can you fix a limit? It is readily seen, allowing this latitude, how easily the funds might be prostituted to the encouragement of cock-fighting, pugilism, horse-racing, and almost anything else which might promise aid in replenishing the treasury. Is it not better that these Societies be confined to their appropriate work, which is so vastly important, and not squander their energies and means upon foreign objects, however desirable they may be regarded?

6. *It will prove injurious to the proper objects and general interests of the Societies.*

Much of the interest felt in seeing the proper objects of the Society promoted will necessarily be transferred to this, as it becomes the predominant characteristic of the exhibition; and the time and attention so necessary to give success to other departments, must be divided with the Riding Match. This is true, not only in regard to the arrangements of the Board of Managers, but to the Examining Committees, and the exhibition itself. In these respects it is not only a neglect of the just claims, but an infringement of the rights of exhibitors, of which they very justly complain. Its demands, also, on the attention of the community of spectators, draw them from the consideration of what is substantial and useful, and calculated to make them more successful farmers, fruit growers, mechanics and housewives, to what is mere amusement—thus defeating in a measure the grand object of these Societies. It will prove injurious to the interests and usefulness of these Societies, by repelling and driving from their support many of their most efficient friends and patrons. The admirers of consistency will neither support nor countenance the Society which leaves its ample, honored and proper field of effort, in violation of its great design, for the encouragement of any mere amusement, however specious. The cautious and prudent, the lovers and promoters of good order and morality, will not feel at liberty to give encouragement to anything of so doubtful a tendency. This alienation of so large a class of the friends and patrons of these Societies, cannot but prove injurious to their continued prosperity and success. A consistent and faithful adherence to the great design of these Societies, alone, can command the respect and secure the confidence of all classes of community.

Moscow, N. Y. MARIA.

ON THE CULTIVATION OF FLOWERS.

EVERY woman has, or thinks she has, a taste for flowers; that is, she loves them when they are in bloom, admires their fragrance, their rich and gorgeous colors, and their endless variety of form and size. But, comparatively few know the real pleasure of cultivating flowers, and why? Because so many depend on their husbands, brothers, or gardeners to do for them what they ought to do for themselves, *viz:* prepare the ground, sow the seed, and keep the beds free from weeds. Now this would, for me, destroy half the pleasure of flower gardening. Nothing imparts more vigor to the body, and recreation to the mind, than a few hours spent early in the morning in the garden. I have heard many women object to this, on the plea that they could not find time in the morning. But let me say, few have had more cares than I have, with a family of nine children, all healthy and vigorous; and since my childhood I have ever had the care of a flower garden, doing the work with my own hands from first to last, with the help, in latter years, of my daughters—all busy, in doors and out, from the rising of the sun to the going down thereof. And well have I been repaid; for I have not only seen my flowers bud and blossom, but I have seen my daughters grow up healthy and active, their cheeks vieing in bloom with the roses they cultivate, and their minds improved and invigorated by appreciating all that is beautiful and lovely in nature, teaching them to "look from nature up to nature's GOD." Then let me urge all women, old and young, to cultivate flowers.

Perhaps some city miss will say, "Oh, some country woman wrote that, who has plenty of ground to cultivate." But let me tell such, that all my life time, till within the last three years, has been spent within the bounds of a city. Not a few have said to me, "How is it your children look so healthy, and unlike other children brought up in the city?" I only need to point to my garden and say, there is the secret—there is my fountain of health. C. H. COLLINS.

Clay, Washington Co., Iowa.

Horticultural Department.

HORTICULTURAL OPERATIONS FOR MAY.

The multiplicity of little things to be attended to this month, such as ventilating and shutting up green houses and hot bed frames, at sudden changes of the weather; shading, watering, fumigating with tobacco to kill the green fly on plants under glass; sticking and tying, cleaning and turning, washing the leaves, re-potting some and planting out other plants, make it for the gardener the busiest one in the year.

As a general thing, all the garden ground, where not already done, should be highly manured and spaded up as soon as possible; for this is the time for sowing the main crops of hardy vegetables. For small seeds and dwarf-growing crops, as onions, carrots, parsneps, dwarf beans, spinach, salsify, lettuce, radish, mustard and cress, &c., the ground should be laid out in beds five or six feet wide, with alleys two feet wide and their edges cut even to preserve a neat appearance. For tall growing plants, as peas, Lima beans, sweet corn, and others of procumbent habit, as cucumbers, melons, squash, &c., the ground can be laid out in large squares.

Peas.—As soon as the ground is ready, stretch a line across the square and draw drills, with a hoe, two inches deep and four feet apart; and if the drill be fifty feet long, it will take about one pint of peas.—To supply a family of six or eight persons with a dish every day, sow of the following varieties: Early Kent, Champion of England, and Knight's dwarf marrow. Three rows of each sown at the same time will come in succession and continue fit for use for a month or six weeks.

Sweet or Sugar Corn.—Hoe up little hills three inches high and one foot square and four feet from centre to centre. On the top of each hill sow the corn; bury it one inch deep; if three grow it will be enough; should it miss, sow again.

Lima Beans.—Dig holes two feet square and one foot deep, and four feet from centre to centre; mix two or three shovelsful of good rotten manure with the earth that comes out of the hole, and fill it in again; drive a pole ten or twelve feet long in the centre of each hole and plant five or six beans around it; bury them one inch. Three plants in a hill will be enough. Sow again if they miss.

String Beans.—In some sunny situation, sheltered from cold winds, draw a drill as recommended for peas, and sow early six weeks beans, about a pint to a drill of fifty feet. If more than one drill be wanted at the first sowing, make them two feet apart. To have a succession repeat the sowing in three weeks. As these beans are very impatient of wet and cold, it is possible that the first sowing may partially fail Examine them in five or six days and if found to be decayed, sow again directly.

Onions.—To secure a good crop of onions it is necessary that the ground be deep, rich and moist, and the seed sown early. Make the beds about five feet wide. Stretch a line six inches from the edge of the bed and the whole length, make a drill with a piece of stick, one inch deep; sow the seed thinly in the drill; draw the earth over the seed with the back of the rake. When up six inches, thin them to four inches apart in the row. These thinnings may be planted in rather poor ground or in the shade of low spreading trees, and will come in well for pickling.—Plant them in moist weather, or give a good soaking of water. Make the drills for the main crop one foot apart. Red Dutch and Red Portugal are good varieties; the former is the best keeper, but the latter the mildest flavored.

Parsneps and Beets.—Sugar or Hollow Crown parsnep, Early Bassano beet and the Long Blood beet may be sown in drills as recommended for onions, but two feet apart. When up two or three inches thin the parsneps to nine inches apart in the row, and the Long Blood beet to a foot apart from plant to plant. The Early Bassano beet may be thinned as wanted for use, pulling out the largest first and leaving the small ones to grow larger.

Early Short-horn Carrot.—Sow in good ground in drills a foot apart, bury the seed from half an inch to an inch deep. When up keep clear of weeds; they may be thinned as wanted for use, pulling the largest first and leaving the smallest to grow larger.

Salsify.—Sow a good bed of salsify. It will be found very useful for winter and early spring use.—Sow thickly in drills one foot apart, as recommended for horn carrot; bury the seed about one inch deep; when up thin out to four inches apart in the row.

Spinach.—Sow a bed of round seeded spinach in drills a foot apart; bury the seed about an inch deep; when up thin out to eight inches apart from plant to plant; keep the ground stirred with the hoe, and clear of weeds.

Cucumbers.—For ridge cucumbers dig a hole two feet square and one foot deep; fill it with decomposed turfy sods and rotten manure, or mix rotten manure with the soil that came out of the hole and fill it in again. This will raise the hill three or four inches above the surrounding soil. Sow six or eight seeds about the centre of the hill and press them into the soil with the finger about one inch deep; cover them with soil and place a small frame, to be covered with glass, over them. It will also be well to cover the frame with milenet or gauze to keep off the bugs. Ventilate a little on all warm, sunny days, by tilting the sash or glass a little on the opposite side from which the wind blows, so as to prevent any cold air from blowing in and chilling the plants. Ventilate a little soon after the sun has begun to shine upon the glass, and shut up again about four or five o'clock in the afternoon, before the sun leaves the glass. Do not allow it to get burning hot in the morning before you ventilate, for it is the sudden changes which do the mischief. Where no milenet is used, they may require a little shading in very bright sunshine for a few hours in the middle of the day by shaking a little short grass or litter over the glass. Water when dry with luke-warm water. When they have made three

rough leaves pinch the top out of each plant to make them branch, and leave but three plants in a hill.

Melons and Squash.—These same remarks hold good for musk melons and water melons. Make the hills four feet apart in the rows, and the rows six feet apart for Cucumber and Early Christina musk melon; for Orange water melon six feet apart each way. The same remarks also hold good for summer crook-neck squash, and the Boston marrow or winter squash, only that they will require no pinching, and the latter planted eight feet apart each way.

Tomatoes.—About the first or second week will be time to plant out tomatoes. Plant them four feet apart each way. Choose the warmest and sunniest piece of ground that can be spared for them. Drive a stake, two inches square and four feet high out of the ground, at the foot of each plant; directions for training will be given next month. When planting, if it can be had, mix about a table-spoonful of Peruvian guano in the soil about their roots.

Purple Egg.—For vegetable egg dig a trench one foot wide and one foot deep; put in four or five inches of good rotten manure; fill the trench to its former level, with soil that came out of the trench; then dig and mix well together. The remainder of the soil lie along each side of the trench and form a sort of gutter to hold water, in hot weather. Plant your plants two feet apart along the middle.

Cauliflowers.—Early cauliflowers may be planted in the same way, only make the trench two feet wide.

Cabbage.—Early cabbage, or lettuce plants can be planted between the rows of peas of the second sowing. The spaces between the rows of peas of the first sowing should be left for the celery trenches; directions for which will be given next month.

Josiah Salter.

THE APPLE TREE BORER AND BARK LOUSE.

Messrs. Editors:—In reading the accounts of the ravages made by the borer and its kindred families, it occurred to me that perhaps a short account of the methods that had been successfully practiced as a remedy and protection, would not fall into utterly barren soil.

We all love good fruit; we all know that there is no fear of glutting the markets; we know, too, that paying $1.50 per bushel for good, eatable apples, as has been customary the past winter, cannot be afforded by those of moderate means.

In Dr. Fitch's Report on Insects, in the *Transactions of the New York State Agricultural Society*, page 716, (1854,) it is stated that an intelligent fruit culturist at the West, (Illinois,) who had kept a pretty accurate account of his fruit trees, found that he had lost one in eight by the borer. A gentleman in the eastern part of this State, who had purchased a lot containing ten young apple trees, was told by the former proprietor that he must not expect fruit trees to do well there, as the soil was not congenial to them. On closely inspecting his purchase soon afterwards, and going to work with his knife, from these ten trees he dug out sixty worms. Several of the trees were almost girdled, and doubtless would have been so entirely, had not a timely check been put upon their operations. The same trees show for themselves that it was not the fault of the soil that they did not grow before.

The *borer*, in its winged state, as all observers are aware, deposits its eggs upon the bark, at or near the surface of the earth, but sometimes in the first forks of the tree. Each egg hatches a maggot, with no feet; this maggot eats its way directly downwards in the bark. At a later period of the season scrape off the outer dark colored surface, and you can easily trace the path of the young worm. A little blackish spot, like a wheat kernel, will show the place of deposit, and by cutting a little into the bark he may be found.

Now, how shall we protect our trees from his attacks? Experiments show that alkaline washes are directly poisonous to insects and their eggs and larvæ, and one of the best of these, which every one has, or may have, is good common soft soap. A. B. Dickinson says that a handful of it, placed in the axils (forks) of the lower limbs, is an infallible preventive. Whether it is so or not, experience shows it is beneficial. Downing recommended painting the body of the tree and the axils with a mixture of soap, sulphur and tobacco water. Dr. Fitch recommends a remedy, as tried by himself, as simple, sure, and easy of application: "The upper end of his burrow may easily be found by puncturing the bark with an awl, or even a stiff pin, directly above the orifice whence his castings have been ejected; then, with the point of a penknife, cut away the dead bark covering the upper end of the burrow, loosen the castings as much as can conveniently be done, and finish by pouring hot water from a tea kettle, or other convenient utensil, into the hole at intervals for a few moments, until you are certain, by its oozing out from the lower hole or otherwise, you have reached him." There is a beautiful instance of the application of a chemical fact in the above practice. Albumen (white of an egg) composes a large proportion of the substance of larvæ and grubs. It is coagulated at a temperature of 180° Fahr., so that at a heat considerably below boiling water the destruction of the worm is certain!

The bark louse is probably the most destructive pest of all, and its ravages are increasing so rapidly, particularly at the West, that unless one is willing to work, and work faithfully, to defend his trees from their attacks in sections of country infested by them, he will reap but little reward for time and labor in planting out an orchard.

Mr. Kimball, of Kenosha, Wis., uses the following remedy: "He boils leaf tobacco in strong lye till it is reduced to an impalpable pulp, which it will be in a short time, and mixes with it soft soap, (which has been made cold—not the jelly-like boiled soap,) to make the mass about the consistence of thin paint, the object being to obtain a preparation that will not be entirely washed from the tree by the first rains which occur, as lye, tobacco water, and most other washes are sure to be. The fibres of the tobacco, diffused through this preparation, cause a portion of its strength to remain, wherever it is applied, longer than any application which is wholly soluble in rain water can do. He first trims the trees well, so that every twig can be reached with the paint brush, and applies this preparation before the buds have much swelled in the spring. Two men, strictly charged to take their time, and be sure that they painted the whole of the bark to the end of every twig, were occupied a fortnight in going over his hundred and fifty young trees."

THE EARTH, OR ANGLE-WORM

Messrs Editors:—Most old gardens, and rich soils generally, are infested by the common earth, or angle-worm, much to the detriment of the appearance of the former, where neat walks and alleys are always desirable. These worms usually come to the surface after rains, bringing with them a portion of the soil, and leaving their casts and trails wherever they move. They also come up in heavy dews, (and are hence called dew-worm) with the same result. These facts are generally noticed, but few have studied their uses or sought out the part they perform in the economy of nature. The following, in substance, is drawn from competent authority.

A very important creature in the operations of nature, is the common earth worm (*lumbricus terrestris.*) Destined to be the natural manurer of the soil, and the ready indicator of its improved state, it consumes on the surface of the ground, where they would soon be injurious, the softer parts of decayed vegetable matters; and conveys into the soil the more woody fibres, where they moulder and become reduced to a simple nutriment, fitting for living vegetation. It is also serviceable as furnishing the food of many animals, and is an example of an individual race being subjected to universal destruction. The very ant seizes it when disabled and bears it away as its prize; it constitutes throughout the year the food of many birds; fishes devour it greedily; the mole pursues it in the pastures and along the moist bottoms of the ditches, and burrows after it wherever it may hide.—And, though inhabiting the earth, many aquatic animals seem acquainted with it, and prey on it as a natural food whenever it falls in their way; frogs eat it, and the great water beetle is sometimes drawn up when it is the bait of the angler. Domestic fowls, having access to gardens, pursue it unceasingly; but with all the destroying agencies working against it, they seem constantly to increase in suitable situations.

These worms are tender creatures, and water remaining a few days over their haunts drowns them; they easily become frozen, unless they enter deeper into the earth to escape the cold. In the same way they go down to a depth of eighteen inches or two feet in extreme dry weather. We have found them knotted into a compact ball in the dry, hard subsoil—so hard as to require a pick to penetrate it. They are thought to deepen the soil—to make it more permeable, their holes serving as drains for surplus moisture. No doubt more is known of their habits, uses and abuses, but little or nothing is said of them by your gardening correspondents. We hope this imperfect attempt may call out something more satisfactory.

Niagara Co. B.

Peas Should be Sown Early.—Peas can be sown much earlier than the usual time of making garden in the spring. I have sown them sometimes, in a warm spell in February, sometimes in March, and never failed having peas proportionably early from them. They need not be covered deeper than in the spring, with earth, but should have a covering of straw, leaves, or barn-yard manure. There is little danger of frost, as they bear cold equally with wheat, rye or the grasses. I once saw an experiment made of sowing peas in November; they grew well the next spring, yet I think they vegetate as early if sown in February as in November. M. W.

Bradford County, Pa.

BLACK KNOT—HOGS VS. CURCULIO, &c.

Messrs Editors:—For many years a good plum upon a farmer's table has been a rare sight in central New York, from the fact that the black knot made such havoc with the trees as to induce cultivators to give up in despair. But as we have been suffered to eat our fill from newly planted trees, for two or three years past, we will give our experience so that those who are hesitating whether to set out plum trees or not, may take courage. And here let me say that the most formidable antagonist to the plums is not the black knot, but the curculio.

We had given us a dozen nice young plum trees some years since, and after jolting the dirt off the roots in a twelve mile ride, replaced them in the soil, which was a good loam. They grew well and in due time blossomed, but in a few weeks the plums came tumbling from the tree. The next year we saved a few by sowing ashes and lime in the trees, and *made a bed in the yard for a favorite rooter who disposed of the wormy plums as fast as they came down.* The result was that the next year, despite the tumbling down of many, we had eight bushels of green gage and blue sauce plums.

Now if you have plum trees, or intend to set them out, fix your arrangements if possible so as to give hogs a chance to pick up all the wormy plums, which I think decidedly the surest way to circumvent the curculio.

Manure your trees with sink slops—they delight in that kind of treatment. Give them a sprinkling of salt, two or more quarts to a large tree, every spring, which will usually keep the knots from appearing, but if they do appear, and on some part of the tree which cannot be pruned off, then shave close with a knife, and rub on turpentine. It will "*fix 'em.*" Now reader, if you can obtain some thrifty young plum trees, plant them; treat them as above, and if you do not feel repaid in a few years, I shall be disappointed. N. D. C.

CULTIVATION OF CURRANTS.

Messrs Editors:—The cultivation of currants does not come under the head of "Subjects for the Ladies," nevertheless, as it generally falls to their lot to gather them, prepare them for the table, and help to eat them, it is no more than just that they should know something about their cultivation.

Much has been written about growing currant bushes as standards. My experience goes to show that, in these parts where we have deep snows, this is not the proper mode, for two reasons: (1) the weight of the snow splits down the branches. (2) the insect often kills the bush outright by working in the body. I can point to rows of bushes nearly worthless from the first cause. One will say have them dug out of the snow. I have seen that tried, and the remedy was worse than the disease, for the limbs were broken and barked.

My plan is to place the cutting on rich, *deep* soil, with all the eyes in, and let them grow as they will. Every spring, after all the danger of mice is over, cut out all old and decayed branches and keep the sides of the rows raised on poles, which are let down in the fall, and the snow bears down the branches but does not break them. Keep them well mulched with chips or saw-dust, as that keeps the ground cool and moist, and they need no other culture.

Saratoga Co., N. Y. Mary.

THE APPLE TREE CATERPILLAR.

Messrs Editors:—The common apple tree caterpillar is becoming so prevalent that I think it should be noticed more frequently by the agricultural journals of the day, and the best means to extirpate the evil more thoroughly disseminated among farmers. I have seen a noble orchard entirely stript of leaves by these insects. No orchard can flourish where these pests are allowed to have clean swing. Fruit cannot mature where the trees are stript of their leaves, even if the blossoms escape, which rarely happens. The trees so infested must eventually die, and should it so happen that the insects become less in numbers by being "winter killed," or otherwise destroyed, the trees will require a number of years to recover the thrift and vigor lost by one season's neglect. One method of ridding ourselves of them is, when pruning in the spring, to give a little attention to this subject, and cut off all the eggs that may be discovered. They are easily distinguished, and once seen, will never be forgotten. They resemble a cluster of small eggs compactly glued together. If cut off at this time, the bud will not burst, so the little miscreants will starve before they can find food in another direction. Should you be so unfortunate as to overlook a few, they may very readily be detected by watching your orchard, when, on a bright shiney morning before the dew has dried off, you will discover a small nest of a silvery appearance. These I invariably cut off with the twig to which they are attached and burn them. I think they will leave no seed behind them to perpetuate their kind, and if all would do so we should see but few of them in a few years, even on the wild cherry. D.—*Gates, N. Y.*

CULTIVATION OF PLUMS

To have thrifty plums trees, and free from disease, procure stones from the common blue or horse plum. Freeze through winter, and in the spring crack what stones have not been cracked by the frost. Plant in beds close together. When two years old, take them up, cut off the tap roots, and plant in nursery form. If they grow thrifty, they will do for budding that summer. Bud about the 20th of July. If the buds do not grow, they can be grafted the next spring. When two or three years old from bud or graft, set them in your orchard, fifteen feet apart, always selecting a clayey soil.

Most varieties of the plum are subject to the black excrescence commonly called black knot. The best remedy for it is to cut off the diseased limb and destroy it, as soon as it appears.

The trees are often injured by slugs. They come on the tree about the end of June. If left on they destroy the leaves, which injures both the tree and fruit. They may be destroyed by scattering dry ashes or lime on the tree when the dew is on the leaves.

The curculio, one of the chief enemies of the plum, is a small brown fly, which stings the fruit when about the size of peas, causing it to fall soon after it is stung. There are several ways in which the fly may be destroyed and the fruit saved: one is to place a sheet under the tree, shake the tree, and the insects will fall on it, and they can be thus destroyed. J. E. B.

Newcastle, Durham Co., C. W.

CULTIVATION OF PEACHES.

To begin with, pits taken from healthy trees, natural fruit, are the best. Lay them out doors where they will freeze, during the winter, and cover slightly with dirt to prevent their drying out. Crack, and plant in May, in rich soil. Bud from July to September, and cut the tops off the next spring. Transplant when two or three years old. Cultivate the ground very well every year, and prune off all superfluous sprouts.

When the trees commence bearing, enrich the ground well with manure, and sow a peck of ashes around each tree in the spring.

The orchard should be plowed sometime in May or the first of June, and again in the fall, after the peaches are gathered, taking care to disturb the roots as little as possible.

Beans and rye should never be raised in a peach orchard, and the grass and sods should be cleared away from around the trees.

High culture after the trees commence bearing will *tell* on the crops, both in quantity and quality.

Clarkstown, N. Y. Myron E. Tanner.

Currant Bush Worm.—In the February No. of the *Farmer*, a correspondent asks for information respecting the currant worm. I think by the description it is the same that has appeared here in some gardens. They are easily got rid of, but require daily attention while they last, (which is a short time,) in order that none may escape. As soon as they show themselves, which they do generally in one colony, spread cloths under the bushes, and jar, when they will instantly web themselves down. Then with a stick break off their webs, and draw out the cloths and dispose of the worms. Follow this up a few days, and there will none be left to tell the tale.

They turn into a white miller that may be seen flying at night. There is also here a species of borer, that works in the stem, though I have never seen the insect. By the holes they make, they must be very small. Mrs. I. C.

Saratoga Co., N. Y.

Growing Melons, &c.—In the February number, you ask for the experience of your readers on the subject of soaking seed previous to planting.—We used to practice that, but now have a better way for such as have no hot-beds. With a knife cut thin sods eight inches square, lay them on an old pan, or any vessel that can be kept in a warm place, with the grass side down. Put two or three inches of soil on the top and plant your seeds, a hill on each sod, a few days before you make garden. They will come up quickly. Transplant them by putting the hand under the sod and placing it in the hill. Cover the hill with a box having mosquito net on the top, which may remain on until the plants are too high for the box. This will protect them from the bugs, and keep the cold night air and winds from injuring them, and they will be much earlier.

A Farmer's Wife.

Saratoga Co., N. Y.

Celeriac, or turnip-rooted celery, is cultivated in the same manner as celery, except that it does not need earthing up.

AN OHIO FARMER'S GARDEN.

Messrs Editors:—In the first place I take one acre of ground, lay it off in strips six to twelve feet wide one way; back furrow each strip three or four times until a ditch is formed between them some eighteen inches lower than the bed. Then I back furrow a head-land at each end wide enough for two or three rows of potatoes.

Now the garden is ready for the manure. I fill the ditch with any kind of rough manure to the depth of six inches, one or two ditches at a time, as needed. I begin and back furrow, plowing from the center of the bed each way, and cover the manure to the depth of twelve inches, using a hoe and shovel a little, and make the ditch where the center of the bed was. Then I mark out lengthwise two feet, three feet, or any other width that I need, according to what I wish to sow or plant. I plant almost every thing in drills. I like a row or two of beets, a row or two of parsneps, carrots, peppers, cabbage, potatoes, corn, melons, cucumbers, &c., all deep rooted vegetables, over the center; beans, &c., in the side rows. When I wish any thing early, I go to the horse stable and with two good loads of horse manure fill a ditch, cover it as before, sow or plant over the center. This is my hot-bed: take two wide boards and set them along the rows, like the roof of a house, using them only when the weather is cold or during a cold rain.

I back furrow the head-lands for potatoes. I dress out a little with the hoe once, then with a small handy shovel plow. I plow almost every thing, even peppers.

The second year I fill, at leisure, the ditches with any kind of rough manure, except the one I wish for a hot-bed, and alternately change the center of the bed ever year.

I have uniformly had the earliest, largest and best of every thing that grows in the garden. One beet weighing (leaves trimmed off and washed clean) eighteen pounds; a cabbage head (every green leaf taken off and stump cut off close to the head) weighing fifteen pounds. When I commence my garden I deem 100 bushels of lime an indespensable requisite to make cabbages head, and make turnips sweet.

J. D. Chamberlain.

Waterford, Ohio.

Cultivation of Peas.—Plow or dig the land deep and mellow, and rake lightly; then plow or dig a trench one foot deep and one foot wide; cover the bottom of the trench with hog manure, two inches deep; then cover the manure with dirt four inches deep, and drop the peas lengthwise of the trench, about four inches apart, having two rows in a trench. Make the trenches about a foot and a half apart; cover the peas till the trench is nearly full. Sow about the last of April.

When they are about four inches high, hoe and hush them. At hoeing, fill the trench full.

A little plaster on the manure will improve the crop in a dry season.

Be careful to keep the weeds down between the trenches throughout the summer; it will take a good deal of pains, but the crop will be so much improved that it will pay. I prefer the Marrowfat.

E. G. Rockwell.

German, Chenango Co., N. Y.

CHERRY BIRDS.

Messrs Editors:—Your correspondent Bement, in the last number of the *Farmer*, makes a very eloquent plea in favor of the birds, to which I give my hearty assent. But your correspondent has forgotten to name one, whose labors I have watched for several years. I refer to the Cedar bird, or as he is commonly called Cherry bird, or Currant eater. Although he may not destroy as many insects as some others, yet I assure you he is of vast help in gathering cherries. A few years since when my Baumann's May first came into bearing, I was fearful that some rogue might be tempted to steal them before I had a chance to taste, and so I covered the tree with a net. But one afternoon having occasion to leave home, I found on my return that the birds had crept under the net and taken every cherry; doubtless to keep them from the ravenous worms. A friend of mine had a fine large tree loaded with the same variety, and as soon as they began to turn red, the little warblers began their benevolent work, and although my friend would gladly have relieved them of a portion of their labors, yet with all his efforts he was hardly able to tell how a ripe cherry would taste.—But enough; I wish some of your able correspondents would give us a complete history of the life and labors of this insect destroying specimen of natural history.

J. P.

MY FIRST DAHLIA.

Messrs. Editors:—Thinking it may interest and encourage some of your readers to persevere sometimes against hope, I will give a short history of my success in raising my first dahlia. I had but one tuber. After placing it in a box, only one sprout appeared; this I had put in the ground, and also the remaining part of the tuber, which was without a sprout, and apparently without an eye. In about six weeks it germinated, producing a feeble plant which struggled along for weeks. I concluded to assist it in its life struggles, and cut off all its under leaves and branches, retaining only the upper ones, and continued to prune it for a month. In September it had become—not a giant, neither was it a dwarf—but a medium sized plant, containing twenty-five blossoms and three distinct varieties, and about sixty buds, all on the stock at the same time. Many of the blossoms were quite circular, and so perfect were some of them that the eye, or disc, could not be seen; a few of them would have measured as large around as a common tea-saucer; but an untimely frost prevented many from blossoming. As this was my first effort, of course I was not capable of judging its comparative excellence, but I would like very much to have amateurs give their experience.

H. H. M.

Liverpool, March, 1857.

Black Pepper, dusted on cucumber, melon and other vines, when the dew is on, is said to drive away the striped bug, and will do no harm to the plants.

"A Good Housewife," says Pliny, "will go into her herb garden instead of a spice-shop for her seasoning, and thus preserve the health of her family by saving her purse."

Editor's Table.

April Premiums.—The following are the successful competitors for the premiums offered for the largest list of subscribers by the 15th of April.

1. I. W. Briggs, West Macedon, N. Y., 200 subscribers, $50.

2. J. Little, Seneca, C. W., 150 subscribers, $30.

3. J. H. Hanning, Morristown, C. W., 103 subscribers, $20.

4. John Horton, Eaton, Ohio, 100 subscribers, $15.

5. Samuel Gray, Reily, Ohio, 83 subscribers, $10.

The above premiums are to be paid in agricultural books, and we desire the winners will inform us what works they wish and by what routes they shall be sent, and they shall be immediately forwarded.

Prize Essays.—We have the pleasure this month of presenting our readers with a "Prize Essay number."—The essays are all short and practical, and cannot fail to be read with interest and advantage by every one interested in the cultivation of the soil.

We hope the respective writers of these prize essays will inform us what dollar book (or books) they wish and it shall be forwarded immediately.

Old Seeds.—We are not aware the fact has ever been physiologically accounted for, but it is certain that some seeds are much improved by keeping. For instance, gardeners not unfrequently carry melon and cucumber seeds in their pockets in order that the necessary maturation may be accelerated by the warmth of their bodies; and it is found that old seeds of these plants are more productive of fruit and less prone to run to vines than new seeds. Cauliflowers and most of the cabbage tribe are less liable to "bottom" or run prematurely into flower, while turnips bulb better, produce less top, and are not as liable to run to seed when grown from seed several years old as when raised from new seed.

The Powers of Reproduction by Seed are immence. A single capsule of the tobacco plant contains about one thousand seeds; one of the common medicinal poppy, eight thousand; while the vanilla plant has been computed to contain from ten to fifteen thousand. Each of these produces from twenty to thirty capsules on each plant. Cryptogamous plants possess the power of reproduction to a still greater extent; common spleenwort is estimated to produce one million of seeds.

To Detect Diseased Potatoes.—It is not always possible to tell by the eye whether a patato is entirely free from all disease or not. Prof. Way says that a slice of a diseased potato will curdle milk in three or four hours if kept in a warm place, whereas a slice of sound potato has no such effect.

To Canada Subscribers.—We understand that some of our subscribers in Canada have been compelled to pay postage on the *Genesee Farmer*. This is manifestly contrary to law and should not be submitted to.

Acknowledgements.—We are indebted to Prof. S. W. Johnson, of Yale College, for his excellent lecture "On the Relations that Exist between Science and Agriculture;" to C. L. Flint, Esq., Secretary of the Massachusetts Board of Agriculture, for a copy of his address delivered before the Franklin County Agricultural Society, and also for a copy of the Transactions of the Board of Agriculture for 1855—(Mr. Flint's article on the grasses we consider a valuable acquisition to our agricultural literature;) to the editors of the *California Farmer* for the "Official Report of the California State Agricultural Society's Third Annual Fair, Cattle Show and Industrial Exhibition, held at San Jose, October 7 to 10, 1856"—(it is an interesting pamphlet of 80 pages, and an honor to the State; to M. B. Bateham & Co., Columbus, Ohio, for one of the Spring Catalogues of their Nursery stock; to B. P. Johnson, Esq., for a pamphlet containing the proceedings attending the Dedication of the New York State Agricultural Rooms, at Albany, February 12, 1857; to Eben Wright, Esq., Corresponding Secretary of the Massachusetts Horticultural Society, for the Reports of the Committees of the Society for 1856, and a Schedule of Prizes for 1857; to Robert Russell, Esq., of Kilwhiss, Scotland, for a copy of his lecture before the Agricultural Society of Scotland, on the Agriculture of Canada and United States; to the Hon. W. L. Marcy, for a copy of the Army Meteorological Register—a most valuable work, which we shall notice more at length at a future time; to J. M. Thorburn & Co., of New York, for a package of Chinese sugar cane seed.

Who Should do the Milking?—Our offer of a premium for the best answer to the question, "Is it right to ask the women folks to do the milking during the busy season?" called out a number of replies. In the March number we promised to give extracts from these essays, and have to apologize for not doing so—at present. We still continue to receive articles on this subject. The essay of Mr. Wood is the occasion of many of these communications. We give, at random, an extract from one as a specimen:

"Mr. D. S. Wood says, "shame on the man that asks a woman to milk the cows." Now a few queries arise in my mind and I will give them vent. I wonder if "Mr. W." is married? I wonder if he built the house he lives in? and if so, if his heart did not exult over the thought that there he could *cage* his wife, and that although she might hop from base to dome at will, if she opened the *outer* door for any *useful* purpose she was "*out of her* sphere?" Furthmore, I wonder if *Mrs.* W. ever dare ask her leige lord to hold the baby, put some wood on the fire, or fetch a pail of water *farther* than the door? Wonder if said "W." does not think that the maidens of the olden time, who drew water for the camels, as Rebekah, or gleaned in the fields, as Ruth, were rather low lived? I wonder if Mr. W. thinks there are *bounds* to the *usefulness* of either sex?—He says, "the question imples that this work does not properly belong to the women." I grant it; and so indoor work, because esteemed less hard, is not considered man's business, but he is not a *true* man who feels himself *insulted* when in an hour of leisure he is asked by a hurried wife to assist her, and (the *ladies* at my elbow say) she is not a *true* woman who refuses to assist her husband or brothers in anything which she can do without slighting her accustomed work."

Our columns are so crowded this month that we have been obliged to leave out several *cuts* engraved expressly for this number.

BEANS IN HILLS OR DRILLS.—One of our correspondents residing at Ashton, Wis., gives us the result of an experiment in planting beans in hills or in drills. The rows in both cases were three feet apart. The hills being two feet apart in the rows in the one case, and in the other the beans were scattered along the row "nearly as thick as peas." The result was that those planted in hills *required much more labor to keep them clean*, and the yield was only eighteen pushels per acre, while those planted in drills yielded thirty-six bushels per acre.

He finds it best not to plow the land till just before planting, say the first of June, as the land turns up loose and mellow and the beans get the start of the weeds.

THE PRINCIPLES OF AGRICULTURE UNIVERSALLY APPLICABLE.—Most of our farmers have an idea that the matter contained in an agricultural magazine published in Western New York is not applicable to *prairie farming*; but my experience is that good farming in the State of New York is good farming in Illinois or New Hampshire, and *vice versa*. With some allowance for soil, climate, and a hundred other things which the experience and judgment of every good farmer (in every location) will make, I am certain that our Northern Illinois farmers will lose nothing, and gain much, by having the experience and experiments of the able, scientific agriculturists and horticulturists of Western New York. HORACE STARKEY.

SPRING WHEAT IN KENTUCKY.—Mr. B. DECKER, of California, Ky., sends us his method of cultivating spring wheat. Take a three or four year old blue grass or clover seed, break it up eight or ten inches deep the last week of August or first of September, and let it lie all winter.—The following March give another thorough plowing, turning the sod up again. Then harrow well, and about the middle or last of March sow from six to seven pecks of wheat per acre, and harrow crosswise or both ways.—The yield is usually from eighteen to twenty-four bushels per acre.

SPRING WHEAT.—An esteemed correspondent at Springhill, Bradford Co., Pa., writes that spring wheat is frequently sown too early in that section—the ground is plowed when too wet, and the consequence is that at harvest it is difficult to tell whether it was intended to sow wheat or timothy grass. In 1854 there was an unusual snow storm about the middle of April, and in consequence our correspondent did not sow his wheat till the 6th of May. This was considered entirely too late; but at harvest it was admitted by all to be one of the finest lots of spring wheat they had ever seen.

SOAKING BARLEY IN NITRE WATER.—Our esteemed correspondent, Mr. RICHARD FRANCIS, of South Cortland, N. Y., says he once soaked some seed barley in water containing saltpetre, and "was surprised at the increased length of the head, some having between ninety and a hundred kernels in them." It was the six-rowed kind. Soak about twenty-four hours.

SUBJECTS FOR PRIZE ESSAYS.—We intend to continue our offer of premiums for short essays, and shall feel obliged if our readers would suggest subjects.

MALE OR FEMALE PROGENY AT WILL.—I have noticed a number of articles on this question in the agricultural papers, and will give my experience, which I think will be a "settler" on this point. My practice is to put the bull to the cows after milking. Last season I had from five cows five male calves, but old "Spec" got in with the bull late in the afternoon, before milking time, and she produced a *pair of bulls*. W. L. B.

Brandon, Vt.

THE RURAL ANNUAL should be in the hands of all about to commence gardening operations. It contains just the information they need, and more of it than many dollar books. Sent postage paid to any address, on the receipt of 25 cents in postage stamps. Bound in cloth 50 cents. Address JOSEPH HARRIS, Rochester, N. Y.

TO KILL LICE ON ANYTHING.—Take half a cents worth of Scotch snuff for each animal, dry it thoroughly and rub it into the hair the whole length of the back and both sides of the neck, just forward of the shoulders; repeat in eight or ten days, and the work is done.

Brandon, Vt.

THE wheat crop in this section does not look as promising as it did when the snow passed off in February. There are some complaints of winter-kill, yet as a general thing the prospect of a fair crop is favorable. Much less breadth of land, however, has been sown to wheat than usual in Western New York.

BLACK BEANS.—Mr. D. VAN HORN, of Bennettsvile, Chenango Co., N. Y., sends us a sample of Black beans, which he obtained nineteen years ago in Sullivan Co., N. Y. He has cultivated them ever since, as well as many other varieties, but he thinks the *Black* the best string bean he has ever seen. We will give them a trial.

KEEP THE MILK ROOM SWEET.—Last fall, when the fruit was gathered, a quantity was placed in the milk room, and soon a change in the flavor was perceptible. Upon removing the fruit, no more of the unpleasant flavor was observed, showing conclusively its effect upon the butter. E. A. T.

FALL PLOWING FOR BARLEY.—Mr. ANDREW WILSON, of Prescott, C. W., informs us that he has made several experiments in regard to sowing barley on land plowed in the fall or in the spring, and in *all cases the fall plowed land gave the heaviest and best crops.*

THE quantity of water requisite to cause germination in some seeds is very great. DECANDOLLE found that a French bean, weighing 544 milligrammes absorbed 756 milligrammes of water.

THE promise of an early spring has proved delusive. We are now (April 21) enjoying (?) a heavy snow storm which will delay farming and gardening operations for some time, even under the most favorable circumstances.

CHOICE FLOWER AND VEGETABLE SEEDS BY MAIL.—See advertisement on last page.

A NUMBER of Book Notices, as well as much other matter, are necessarily omitted this month.

New Advertisements this Month.—A. Gordon & Co., of the Rochester Agricultural Works, manufacture Pitt's justly celebrated Horse Powers and Threshing Machines, with the latest improvements, as well as Hyde & Wright's Horse Hoe and Cultivator Plow, the Rochester Cutting Box, Hildreth's Gang Plow, &c. Farmers in want of any of these articles would do well to give them a call.

James M. Thorburn & Co., of New York, offer a varied assortment of Agricultural Seeds, as well as of the Northern Sugar Cane Seed.

Saxton & Co., of New York, the Agricultural Book Publishers, offer a number of valuable and seasonable Books, which they will send by mail, free of postage.

John S. Dye, of New York, offers his Weekly Bank Note Detector, for one dollar a year.

Inquiries and Answers.

(A Subscriber.) We know of no certain remedy against the turnip fly. The best method is to sow them very thick, say one or two pounds of seed per acre, and thin out the plants when they are in the rough leaf and out of the reach of the fly. Anything that will stimulate the growth of the young plants can be used to advantage. Plaster will probably be of some benefit; but superphosphate of lime sown in drills with the seed is the best of all manures for turnips, and will push them forward so rapidly that the fly cannot hurt them. We have never seen a crop hurt when sufficient seed was sown along with superphosphate.

(A Farmer, Corinth, N. Y.) We know from actual experiment that sheep will not fat as fast when they are not permitted to drink all the water they wish. For an account of this experiment see *Genesee Farmer* for 1852, page 383.

(A Young Farmer.) Plant the Chinese sugar cane as you would corn. Asparagus beds, if not already done, should be forked over and raked smooth, being careful not to hurt the crowns of the plants.

(A. I. P.) We have had no experience with unleached ashes as manure for broom corn, but think they would be beneficial. See prize essay on the cultivation of broom corn in this number, page 145.

(C. A. F., Newburgh, N. Y.) Your plums fall off the tree because they have been stung with the curculio.

The top branches of my cherry trees are affected with black accumulations having a grub inside. I should be glad if your correspondents would inform me of a remedy. R. F.—*Trenton, C. W.*

Information Wanted.—I am naturally a little inquisitive, and sometimes charged with asking foolish questions and being difficult to satisfy. If at present you think my questions foolish, you may answer me according to my folly or not answer me at all.

1st. If it is so (as many believe) that buckwheat will kill hogs and give old hogs the scratches; why is it? and would it remedy the evil to grind it or cook it?

2d. Last fall while husking my corn I found several well formed cobs almost entirely without corn, three of them containing about as follows: No. 1, one grain; No. 2, two grains; No. 3, twelve grains. If there is a natural cause for every thing, why is it that cobs are *generally* covered with corn, while some few grow with none or very little?

3d. Why is it that the rows of grain on corn-cobs are sometimes crooked, while as a general rule they are straight?

Last fall I found a middling sized ear on which the rows made a complete circuit of the cob, both ends being on one side, and the middle on the opposite side. I intend to plant a few grains from this twisty ear to see if it will produce twisty corn. J. H. Hamilton.—*Mercer Co., Pa.*

ADVERTISEMENTS,

To secure insertion in the Farmer, must be received as early as the 10th of the previous month, and be of such a character as to be of interest to farmers. Terms—Two Dollars for every hundred words, each insertion, paid in advance.

NEW YORK STATE AGRICULTURAL SOCIETY.

PREMIUMS ON FARMS—1857.

Grain Farms,.....Premium $50 and $30
Dairy and Grazing,..... " 50 " 30

Competitors are desired to give notice to the Secretary before the first of July, so that the farms can be visited by a Committee appointed for that purpose.

FIELD CROPS.—Competitors should obtain the Regulations of the Society, so as to have their statements properly prepared. H. Greeley's Premium on one acre of Carrots is continued. Regulations will be furnished on application to the Secretary, and also a list of Premiums for 1857.

B. P. JOHNSON,
Agricultural Rooms, Albany, March 2, 1857. Secretary.
April 1.—2t.

TO LOVERS OF FLOWERS.

BUIST'S FLOWER GARDEN DIRECTORY,.....$1.25
BRECK'S BOOK OF FLOWERS,..... 1.00

Will give you the directions you need for selecting the rarest and best flowers, and for their successful cultivation. These are the best books for amateurs.

☞ *Sent free of postage on receipt of price.*

C. M. SAXTON & CO.,
Agricultural Book Publishers,
May 1.—1t. 140 Fulton street, New York.

NORTHERN SUGAR CANE SEED.

HAVING purchased from Mr. Wray his importation of Chinese Imphee or Sorgho Seed, grown in France, under his own immediate inspection, (thereby insuring the utmost purity,) and described editorially by Mr. Greeley, in the *Tribune*, we offer it for sale in quantities, at ONE DOLLAR A POUND, and in packets, prepaid by mail, at 25 cents, 50 cents, and $1 each. This seed, *as superior to any other in market*, can be procured *only* from

J. M. THORBURN & CO.,
May 1.—1t. 15 John street, New York.

AGRICULTURAL SEEDS.

THE subscribers offer the following seasonable Seeds, the growth of last year, and of unsurpassed qualities. Dealers and others requiring large quantities, will be served at prices considerably below the rates quoted:

Best quality Red Top Turnip,	75 cts. per lb.
Red Top Strap Leaf do.,	75 " "
Large White English Globe do.,	50 " "
" " " Norfolk do.,	50 " "
Long White Tankard do.,	75 " "
Yellow Stone do.,	75 " "
Yellow Aberdeen do.,	75 " "
Best American Improved Ruta Baga do.,	75 " "
Imported do. do. do.,	50 " "
" Purple Top do. do.,	50 " "
And twelve other varieties of Turnips, from 50c. to $1.00	"
Early Scarlet Short-horn Carrot, 1.00	"
Improved Long Orange do., 1.00	"
Long White do.,	75 cts. "
White Sugar Beet,	50 " "
Yellow do.,	50 " "
Long Red Mangel Wurzel do.,	50 " "
Yellow Globe do. do.,	50 " "
Fine Mixed French Grass Seed, for Lawns,	$5.00 per bushel.
And other Mixtures for Lawns, at	$3.00 and 4.00 " "

Also, the finest qualities of Red, White Dutch, Lucerne, and other Clovers; Timothy, Red Top, Blue Grass, English and Italian Rye Grass, Orchard, Sweet Scented Vernal, the Fescues, and other Grasses; with a large and complete assortment of VEGETABLE, FLOWER AND FIELD SEEDS of the best qualities, at reasonable rates.

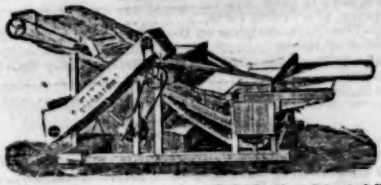
☞ Catalogues on application.

JAMES M. THORBURN & CO.,
May 1.—2t. 15 John street, New York.

ROCHESTER AGRICULTURAL WORKS.

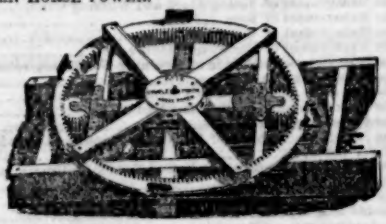
ATTENTION, THRESHERS!

PITTS' PREMIUM SEPARATORS, & DOUBLE PINION HORSE POWERS.



The above cut is a representation of the justly celebrated PITTS' MACHINE FOR THRESHING AND CLEANING GRAIN at one operation. It is the best Machine for threshing and cleaning grain in existence.

The following cut represents PITTS' DOUBLE PINION EIGHT OR TEN HORSE POWER.



As a superior and every way reliable Horse Power, the above stands unrivaled.

We call attention to the fact that we are now manufacturing the above Machines at Rochester, N. Y., in a more substantial and durable manner, and of a larger capacity than any hitherto built in this city, having all the latest improvements made by John A. Pitts.

We can furnish the latest and best all iron Power, for eight, ten or less number of horses.

We invite all who intend purchasing to examine our machines; they will more than equal the best expectations of the public.

FARMERS, YOUR ATTENTION IS ASKED TO

HYDE & WRIGHT'S PATENT HORSE HOE OR CULTIVATOR PLOW,

Designed and better adapted than any other implement for hoeing Corn, Broom Corn, Potatoes, Cotton, or any other crop requiring the use of the Horse or Hand Hoe. It has proved itself the most valuable implement yet invented for the purpose intended. It has been in use in Western New York for the past four years—hundreds of them having been sold on trial, and none returned. Its great utility has been demonstrated in the fact that one day to the acre, with a man and horse, is all the expense of cultivating and hoeing a field of corn for the season. If used as directed, hand hoeing, in nine cases out of ten, may be entirely dispensed with. We have numerous certificates of the most satisfactory character, which we would be happy to show the public.

Farmers may rely on realizing their best expectations from the use of the Horse Hoe. Price, $8; if ground and polished, $8.50. No farmer should be without one. They are having an unlimited sale. Sold at wholesale and retail.

ROCHESTER CUTTING BOX.

All who are in want of a Feed Cutter, adapted equally well to the cutting of all kinds of fodder, will find our Cutting Box in all respects to answer their wants.

IRON GANG PLOW.

We are Agents for the sale of HILDRETH'S GANG PLOW which has superior advantages over every other Gang Plow. Price, $20.

☞ We shall be happy to impart any further information that may be desired. Orders are respectfully solicited.

A. GORDON & CO.,
May 1. 68 South St. Paul street, Rochester, N. Y.

FLOWER SEEDS., &c.,

FROM the best European collections—16 papers for $1. Chinese Sugar Cane Seed, Roses, Bulbs, Strawberries, &c. Address
W. T. GOLDSMITH,
May 1.—1t. Rochester, N. Y.

ONE DOLLAR A YEAR.—CIRCULATION OVER 100,000 COPIES WEEKLY.

25 WITNESSES;

OR,

THE FORGER CONVICTED.

JOHN S. DYE IS THE AUTHOR,

Who has had ten years' experience as a Banker and Publisher, and Author of

A Series of Lectures at the Broadway Tabernacle,

When, for ten successive nights, over

☞ **50,000 PEOPLE** ☜

Greeted him with Rounds of Applause, while he exhibited the manner in which Counterfeiters execute their Frauds, and the Surest and Shortest Means of Detecting them!

The Bank Note Engravers all say that he is the Greatest Judge of Paper Money living.

Greatest Discovery of the Present Century

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DETECTING COUNTERFEIT BANK NOTES,

Describing every Genuine Bill in Existence, and Exhibiting at a glance every Counterfeit in Circulation!!

Arranged so admirably that REFERENCE IS EASY, and DETECTION INSTANTANEOUS.

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But so simplified and arranged that the Merchant, Banker and Business Man can see all *at a glance.*

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Thus each may read the same in his own Native Tongue.

Most Perfect Bank Note List Published.

Also,

A List of all the Private Bankers in America.

A Complete Summary of the FINANCE OF EUROPE AND AMERICA will be published in each edition, together with all the Important NEWS OF THE DAY. Also,

A Series of Tales

From an Old Manuscript found in the East. It furnishes the Most Complete History of

ORIENTAL LIFE,

Describing the Most Perplexing Positions in which the Ladies and Gentlemen of that Country have been so often found. These Stories will continue throughout the whole year, and will prove the Most Entertaining ever offered to the Public.

☞ Furnished Weekly to Subscribers only, at $1 a year. All letters must be addressed to JOHN S. DYE, BROKER,
Publisher and Proprietor, 70 Wall street, New York.
May 1, 1857.—1y.

TO FARMERS AND GARDENERS.

THE Subscribers offer for sale 40,000 barrels of their New and Improved POUDRETTE, manufactured from the night-soil of New-York city, in lots to suit purchasers. This article (greatly improved within the last two years) has been in the market for eighteen years, and still defies competition as a manure for Corn and Garden Vegetables, being *Cheaper more powerful than any other*, and at the same time *free from disagreeable odor*. Two barrels ($3 worth) will manure an acre of corn in the hill, will save two-thirds in labor, will cause it to come up quicker, to grow faster, ripen earlier, and will bring a larger crop on poor ground than any other fertilizer, and is also a preventive of the cut worm; also, it does not injure the seed to be put in contact with it.

The L. M. Co. point to their long-standing reputation, and the large capital ($100,000) invested in their business, as a guarantee that the article they make shall always be of such quality as to command a ready sale.

Price, delivered in the city free of charge and other expense—

One barrel,	$2 00
Two "	3.50
Five "	8.00
Six "	9.50

And at the rate of $1.50 per bbl. for any quantity over 6 bbls.

☞ A Pamphlet, containing every information, will be sent (FREE) to any one applying for the same. Our address is—

THE LODI MANUFACTURING CO.,
feb 1—4t Office, 60 Cortlandt St., New York.

CHOICE FLOWER & VEGETABLE SEEDS,
AT GREATLY REDUCED RATES.

MR. JAMES VICK, the former publisher of the *Genesee Farmer*, imported from France some very choice Flower and Vegetable Seeds, which passed into the hands of the subscriber in his purchase of the establishment. The seeds are all good, and of the very best and rarest kinds, and will be sold at a reduced price.

Any of the following kinds of FLOWER SEEDS will be sent, postage paid, to any address in the United States, *for four cents per package:*

DOUBLE BALSAM—Large flowers, splendid colors.
CENTAUREA—Unique and beautiful.
CALANDRINIA—Delicate and pretty.
RED AMARANTH—Fine for drying—everlasting.
WHITE " "
ORANGE " "
CHINA ASTER—Large, double, and fine colors.
STOCKS—Very sweet scented.
CHINA PINK—Beautiful colors.
PETUNIA—Fine for masses.
MIMULUS—Rare and showy.
CANDY TUFT—Very showy and sweet.
PHLOX DRUMMONDII—Elegant and profuse flowerer.
COREOPSIS—Very graceful and effective.
NEMOPHILA—Modest and beautiful.
PORTULACCA—Very gay, and very hardy.
SWEET PEA—Elegant and sweet.
MIRABILIS—Large and very handsome.

The following rare and valuable VEGETABLE SEEDS will be sent for *six cents* per package:

EARLY BROCOLI—Unrivaled for early use.
WHITE SOLID CELERY—The best ever introduced.
EARLY SHORT-HORN CARROT—Best for cooking.
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